



Article

Quantifying the Silent Selection Pressure: Antimicrobial Stewardship and Gut Microbiome Integrity in the NICU and PICU

Fauna Herawati ^{1,2,*} , Faathimah Az'zahra ¹, Maria Anggeraini ¹, Nur Palestin Ayumuyas ³, Kevin Kantono ⁴, Eko Setiawan ^{1,2} and Rika Yulia ¹

- ¹ Department of Clinical Pharmacy, Faculty of Pharmacy, University of Surabaya, Surabaya 60293, Indonesia; farzhara@gmail.com (F.A.); mariaanggeraini@gmail.com (M.A.); eko_setiawan@staff.ubaya.ac.id (E.S.); rika_y@staff.ubaya.ac.id (R.Y.)
- ² Center for Medicines Information and Pharmaceutical Care (CMIPC), Faculty of Pharmacy, University of Surabaya, Surabaya 60293, Indonesia
- ³ Department of Pharmacy, Rumah Sakit Umum Daerah Haji Provinsi Jawa Timur, Jalan Manyar Kertoadi, Surabaya 60116, Indonesia; yustin.ay@gmail.com
- ⁴ School of Science, Auckland University of Technology, Private Bag 92006, Auckland 1142, New Zealand
- * Correspondence: fauna@staff.ubaya.ac.id; Tel.: +62-89650067999

Abstract

Background: Antimicrobial stewardship in Neonatal (NICU) and Pediatric Intensive Care Units (PICUs) is complicated by rapid physiological maturation and the high vulnerability of the developing gut microbiome. Traditional metrics fails to capture the true utilization density of antibiotics in these settings. This study evaluated antimicrobial consumption patterns and alignment with the WHO AWaRe framework in two Indonesian hospitals and its impact towards patients' length of stay. **Methods:** A retrospective multicenter study was conducted at a public hospital (Haji Hospital) and a private university hospital (HU Hospital) across 2024–2025. The study population includes all admitted patients ($n = 315$ in NICU and $n = 12$ in PICU) to calculate utilization density. Consumption was quantified using Defined Daily Dose (DDD)/100 bed-days, and qualitative assessment was performed using the WHO AWaRe classification. **Results:** Generalized linear modeling revealed that appropriate antibiotic therapy was significantly associated with a 17% reduction in hospital length of stay ($\beta = -0.187$, $p = 0.002$). At HU Hospital, PICU exhibited a seven-fold higher antimicrobial density (37.56 DDD/100) compared to NICU (5.22 DDD/100). At Haji Hospital, NICU density was 4.95 DDD/100 bed-days. Weight-normalized simulations revealed weight-based dosing disparity with low absolute DDD values in neonates mask a significant biological burden and intense selection pressure on the gut resistome due to immature renal clearance. While Haji Hospital maintained high "Access" category adherence (99.58%), HU Hospital's PICU showed a high reliance on "Watch" agents (71.27%), specifically Ceftriaxone and Meropenem, which are known drivers of multidrug resistance. **Conclusions:** Low absolute dosing in neonates does not equate to low therapeutic density or reduced environmental pressure. The heavy use of broad-spectrum agents in the PICU acts as a primary driver for microbiome disruption. To mitigate the emergence of multidrug-resistant organisms, stewardship must transition from adult-indexed metrics (DDD) to more precise measures like Days of Therapy (DOT) and prioritize "Access" protocols to preserve microbiome integrity.

Keywords: antimicrobial stewardship; anti-bacterial agents; drug utilization review; intensive care units; neonatal; intensive care units; pediatric; drug resistance; bacterial



Academic Editor: Philippe Gerard

Received: 27 March 2026

Revised: 30 April 2026

Accepted: 4 May 2026

Published: 9 May 2026

Copyright: © 2026 by the authors.

Licensee MDPI, Basel, Switzerland.

This article is an open access article distributed under the terms and conditions of the [Creative Commons Attribution \(CC BY\)](https://creativecommons.org/licenses/by/4.0/) license.

1. Introduction

The escalation of antimicrobial resistance (AMR) has emerged as a significant challenge to global public health security. Systematic reviews underscore a direct correlation between bacterial resistance and suboptimal prescribing, suggesting that irrational antibiotic utilization is a primary driver of resistance patterns [1]. This crisis is reflected in global mortality estimates, where millions of deaths are associated with resistant pathogens annually [2–4]. In Indonesia, the AMR landscape is increasingly alarming with reported resistance levels in *Escherichia coli* and *Klebsiella pneumoniae* surging between 50% and 82%, with projected mortality reaching 130,000 deaths annually if left unchecked [5]. To address these challenges, the World Health Organization Access, Watch, and Reserve (WHO AWaRe) framework serves as a strategic pillar for antibiotic stewardship to optimize the use of “Access” agents while limiting unnecessary “Watch” and “Reserve” administration [6,7].

Effective surveillance is most critical in high-vulnerability environments such as the Neonatal Intensive Care Unit (NICU) and Pediatric Intensive Care Unit (PICU) [8] where patients face a heightened risk for severe bacterial infections due to physiological fragility and underdeveloped immune systems [9]. Neonatal prescribing is uniquely complicated by dynamic pharmacokinetic (PK) and pharmacodynamic (PD) considerations [10]. Antibiotic dosing therefore must be precisely adjusted to the metabolic immaturity of the liver and kidneys, which mature significantly based on postnatal age (PNA) and gestational age [11]. For instance, as renal blood flow and the glomerular filtration rate (GFR) increase after birth, dosing intervals for standard-of-care agents like Ampicillin must be shortened transitioning from 12-h to 6-h cycles to maintain therapeutic efficacy and account for accelerated molecular clearance in older neonates [10,11].

Recent evidence also suggests that the neonatal gut acts as a critical molecular reservoir for resistance, where antibiotic use can severely disrupt the developing microbiome [12,13]. Research has found that even preterm infants who have not been directly exposed to antibiotics still carry a high number of antibiotic resistance genes (ARGs) in their gut. Such as beta-lactams and aminoglycosides due to the high-pressure NICU environment [14,15]. Postnatal antibiotic exposure further intensifies this “resistome” decreasing microbial diversity and altering the molecular mechanisms, such as horizontal gene transfer and efflux pump expression allowing bacteria to withstand antibiotic pressure [7,12]. This molecular dysbiosis underscores the urgency of stewardship to protect the integrity of the neonatal microbiome and prevent the expansion of resistant strains [11,12].

Despite the necessity of surveillance in these high-risk cohorts, data regarding the alignment of intensive care prescribing with international stewardship frameworks in Indonesian private hospitals remains limited. Therefore, this study aims to evaluate the distribution and consumption intensity of antibiotics in the NICU and PICU of a multicenter hospital network in Indonesia. By applying the WHO AWaRe classification alongside quantitative and quantitative metrics, this research seeks to identify prescribing patterns and provide a localized benchmark for antimicrobial stewardship interventions.

2. Materials and Methods

This study employed a multicenter, quantitative observational design with a retrospective descriptive approach to evaluate antimicrobial consumption across two distinct tertiary care settings in Surabaya, Indonesia. The investigation was conducted at Husada Utama Hospital, a private facility, focusing on the Neonatal Intensive Care Unit (NICU) and Pediatric Intensive Care Unit (PICU) and the East Java Province Haji Hospital (Haji Public Hospital) between the 2024 and 2025. By integrating secondary medical records from these diverse institutional models, the study provides a comprehensive profile of pediatric antimicrobial stewardship. The sampling strategy was designed to ensure statistical

reliability and clinical relevance. The study combined multicenter samples of 321 patients (127 subjects from the private facility and 182 from the public hospital). As a retrospective study, the sample size was determined by institutional volume rather than a priori power calculation to provide a robust, representative dataset across both healthcare models. At both institutions, subjects were selected via time-limited sampling to include all patients who met the inclusion criteria of complete clinical and pharmaceutical documentation. This combined cohort facilitates a robust descriptive analysis of prescribing patterns and consumption profiles.

The data collection process involved the systematic recording of patient demographics, clinical histories, and detailed antimicrobial therapy parameters into a structured digital database. Demographic variables such as age, sex, weight, and primary diagnosis were recorded, with clinical metrics included length of stay (LOS) and admission-to-discharge timelines. For each antimicrobial intervention, specific drug agent, dosage, route of administration, and total duration of therapy were documented. All identified antibiotics were then cross-referenced with the World Health Organization (WHO) AWARe framework to categorize them into Access, Watch, or Reserve groups, providing a qualitative lens towards prescribing appropriateness and alignment with international stewardship guidelines.

Quantitative analysis was performed using the Defined Daily Dose (DDD) per 100 bed-days and the Drug Utilization 90% (DU 90%) metrics. The DDD was utilized as a standardized technical unit of measurement to determine antimicrobial density across the populations, allowing for a rigorous comparison of consumption intensity between the NICU and PICU. Concurrently, the DU 90% method was applied to identify the specific antimicrobial agents that constituted the bulk of the clinical burden. Descriptive statistical analysis was subsequently conducted to synthesize the demographic distribution and utilization patterns, with results organized into frequency tables to highlight the primary therapeutic agents and consumption trends within these critical care environments.

Statistical analyses analyzed the data in two folds, where (1) a Pearson's chi-square analysis was performed on the AWARe prescribing ratios to show the significant differences between the two hospitals, and (2) a regression model was used to explore the significance of antibiotic treatment appropriateness for the patients' length of stay.

Additionally, for the categorical distribution of Access, Watch, and Reserve (AWARe) status across hospitals the effect size was quantified using Cramér's V, and standardized residuals were examined (threshold ± 1.96 , $p < 0.05$) to identify specific prescribing ratios and hospitals that contributes to the overall significance.

Regression model was performed using generalized linear modeling (GLM) to explore the impact of antibiotic appropriateness which was previously determined by Appearance, Pulse, Grimace, Activity, and Respiration (APGAR) scores towards clinical outcomes, specifically the length of stay (LOS). LOS was modeled using a GLM with a Gamma distribution and log-link function which is more appropriate for positively skewed continuous healthcare data. Covariates including age, gender, weight, and height were controlled in the model. All statistical tests were two-sided, with significance defined as $p < 0.05$.

3. Results

Between January 2024 and October 2025, this multicenter investigation evaluated a cumulative cohort of 321 patients. The sample was distributed across the Husada Utama Hospital's (HU Hospital) NICU ($n = 127$) and PICU ($n = 12$), alongside Haji Hospital's neonatal units ($n = 182$).

3.1. Patient Cohort Profile and Clinical Baseline

Neonatal patients (0–28 days) represented the vast majority across all NICU sites. Gender distribution varied by facility: female infants were more prevalent at HU Hospital (51.18%), whereas male patients predominated in the PICU and Haji Hospital cohorts (56.59%). The leading diagnostic indications for intensive care admission were respiratory distress of the newborn ($n = 96$) and bronchopneumonia ($n = 74$). Therapeutic success was high, with a 95.05% recovery rate documented at NICU Haji Hospital, 96.06% at NICU HU Hospital, and 91.67% at PICU HU Hospital.

The clinical landscape of the NICU varies significantly across the two datasets, showing a transition from infectious to non-infectious dominance. Haji Hospital exhibited a distinct infectious profile, led by bacterial sepsis (17.02%). HU Hospital presented a more higher burden between the two categories, where pneumonia (35.43%) represents a major infectious threat, while neonatal jaundice (28.35%) remains the most prevalent non-infectious condition. This comparison highlights that, while public hospital settings may see fluctuating trends in infection control and neonatal care priorities, the private sector maintains a high prevalence of both respiratory infections and metabolic conditions like jaundice.

When comparing the overall NICU data against the PICU at HU Hospital, distinct age-related clinical priorities emerge. The NICU environments are characterized by birth-related and developmental challenges such as neonatal sepsis, respiratory distress, and jaundice. Conversely, the PICU data shifts toward neurological and acute respiratory crises, where non-infectious conditions like status epilepticus (41.67%) serve as the primary clinical driver, followed by respiratory infections (33.3%). While pneumonia remains a shared infectious burden across both units, the NICU is defined by neonatal-specific metabolic and maturity issues, whereas the PICU is dominated by critical neurological emergencies and broader pediatric respiratory infections.

To contextualize antimicrobial selection, local microbiological surveillance from Haji Hospital for 2025 was reviewed. The five most prevalent pathogens identified in blood specimens were *Staphylococcus hominis*, *Escherichia coli*, *Staphylococcus haemolyticus*, *Staphylococcus epidermidis*, and *Klebsiella pneumoniae*. Antibiotic susceptibility testing revealed that Gentamicin, Amikasin, and Meropenem maintained high sensitivity levels ($\geq 81\%$) (Institutional Microbiology Report, Haji Hospital, 2025), providing a microbiological rationale for the stewardship protocols.

3.2. Quantitative Assessment of Antimicrobial Density

The measurement of antibiotic consumption via the DDD/100 bed-days metric revealed differences in prescribing intensity that significantly exceeded physiological predictions based on patient weight. Utilizing a weight-adjusted threshold, calculated as 5.22 DDD/100 bed-days for neonates (mean 3 kg) and 20 DDD/100 bed-days for pediatric patients (mean 12 kg), the PICU's observed consumption of 37.56 units indicates a substantial excess, exceeding the predicted daily dose by 87.8% (17.56 units). This high-intensity profile was primarily driven by Ceftriaxone, which at 19.31 DDD/100 bed-days nearly exhausted the unit's entire physiological threshold independently. In contrast, utilization at the HU Hospital NICU (5.22 DDD/100 bed-days) demonstrated high alignment with the predicted requirements, exhibiting a negligible variance of only 4.4%.

Intravenous Ampicillin (IV) usage illustrates the gap between real-world clinical dosing and standardized measurement metrics across different hospital settings. According to the BNF for Children (2022–2023), neonatal dosing is weight-dependent, typically requiring 30 mg/kg every 6 to 12 h. When evaluating the HU Hospital NICU, the recorded

consumption was 0.99 DDD/100 bed-days, whereas the Haji Hospital NICU documented a significantly lower volume of 0.03 DDD/100 bed-days.

When these values are compared against the weight-adjusted physiological prediction for a 3 kg neonate, as calculated from the WHO adult DDD of 3 g for parenteral Ampicillin, the expected baseline is approximately 0.043 DDD/100 bed-days. The data reveals that, while the Haji Hospital NICU maintains a consumption level nearly identical to the physiological prediction (approximating $1.3\times$ the baseline), the HU Hospital NICU exhibits a consumption intensity 23 times higher than the predicted threshold. This profound variance suggests a much higher antimicrobial pressure in the private hospital setting compared to the public one. Such findings emphasize that the DDD metric, while standardized, requires weight-based contextualization to distinguish between physiologically aligned prescribing (as seen in Haji Hospital) and high-intensity therapeutic interventions (as seen in HU Hospital).

The distribution of antimicrobial agents highlights divergent clinical strategies between hospital settings. HU Hospital NICU maintained a diversified prescribing profile across six agents (Ampicillin, Gentamicin, Ampicillin-sulbactam, Amikacin, Meropenem, and Cefixime) within the Drug Utilization 90% (DU 90%) segment. Conversely, Haji Hospital documented a substantial surge in Gentamicin alone, reaching 1.59 DDD/100 bed-days and accounting for 32.12% of the unit's total volume. These findings suggest that, while HU Hospital NICU adheres closely to weight-adjusted dosing, Haji Hospital NICU and HU Hospital PICU exhibit significant antimicrobial pressure. This is particularly evident in PICU's disproportionately narrow and intense focus on third-generation cephalosporins, which far surpasses the standard daily maintenance dose expected for the pediatric population.

3.3. AWARe Categorization and Prescribing Ratios

According to WHO AWARe's (2025) classification revealed a pronounced contrast in stewardship performance, with the public facility (Haji Hospital) demonstrating a significantly higher alignment with global benchmarks by achieving an "Access" group proportion of 92.21% and a robust Access-to-Watch ratio of 11.84. In contrast, the private university hospital (HU Hospital) encountered a "Watch" group challenge. HU Hospital NICU remained below the 60% Access target at 51.71%, while the PICU exhibited a heavy dependence on restricted agents, with the "Watch" category comprising 71.27% of all prescriptions. This disparity was further reflected in the PICU's low Access-to-Watch ratio of 0.28, emphasizing the need for targeted stewardship interventions to reduce reliance on broad-spectrum antimicrobials in pediatric critical care.

Analysis of the AWARe distribution across hospital settings revealed a significant association between institutional type and antibiotic category ($\chi^2(6) = 52.93, p < 0.001$). The strength of this association was moderate to strong (Cramér's $V = 0.286$), indicating distinct prescribing behaviors between the public and private sectors.

3.4. Statistical Correlation of Appropriateness and Clinical Outcomes

In the HU Hospital cohort (NICU and PICU), LOS regression model demonstrated modest but acceptable explanatory power (Pseudo $R^2 = 0.266$). Notably, with appropriate antibiotics, $\beta = -0.187$ (95% CI: -0.361 to $-0.013, p = 0.035$), corresponding to a LOS ratio of 0.83 (95% CI: 0.70 to 0.99). This translates to approximately 17% reduction in LOS with appropriate antibiotic use. Patient weight showed a significant negative relationship with LOS ($\beta = -0.442$; 95% CI: -0.587 to $-0.297, p < 0.001$), corresponding to a LOS ratio of 0.64 (95% CI: 0.56 to 0.74). To note that the appropriateness of antibiotic selection based on APGAR score was 62% in HU Hospital and 74% in Haji Hospital.

4. Discussion

4.1. Demographic Profile and Clinical Baseline

The predominant proportion of neonates (96.26%) in this multicenter cohort highlights the acute physiological vulnerability of this population, particularly for peripartum infections and complications of prematurity [16,17]. These findings align with neonatal admission trends in other developing regions where early-life susceptibility drives intensive care utilization [16,18]. This demographic is also defined by developmental pharmacokinetic ontogeny, where the rapid maturation of renal function and hepatic enzymes creates a highly dynamic environment for drug clearance [10,11]. Specifically, the molecular transition from fetal CYP3A7 to adult-like CYP3A4 activity significantly alters the metabolic pathways of various xenobiotics during the first weeks of life. Accordingly, the high prevalence of respiratory distress syndrome and bronchopneumonia ($n = 170$) requires empirical interventions that must be precisely adjusted to these evolving metabolic rates in order to avoid systemic toxicity while ensuring therapeutic efficacy [19,20]. Furthermore, the management of respiratory conditions in this period occurs during a critical developmental window for microbiome establishment especially as the neonatal gut is a fundamental reservoir for the metagenomic resistome [12]. Early-life exposure to broad-spectrum “Watch” group antibiotics can lead to a profound depletion of microbial alpha diversity and the molecular expansion of antibiotic resistance genes (ARGs) [12]. In this study, while the high recovery rate (over 90%) suggests effective acute management, the extensive dependence on clinical diagnosis for pneumonia reinforces the need for stewardship strategies that prioritize “Access” agents. Such a shift is essential not only to combat systemic resistance but also to protect the fragile microbial ecosystem of the neonatal gut from the long-term molecular selection pressure and horizontal gene transfer associated with broad-spectrum cephalosporins [12,19].

4.2. Quantitative Consumption and Therapeutic Density (DDD)

The seven-fold disparity in antimicrobial density between the PICU (37.56 DDD/100 bed-days) and the NICU (5.22 DDD/100 bed-days) is largely a result of weight-based dosing disparity. WHO’s DDD is standardized for a 70 kg adult, which fails to accurately capture the pharmacological requirements of a 3 kg neonate and underestimates their actual drug exposure [21]. Consequently, as pediatric patients grow and their weight increases toward adult levels, the necessary rise in absolute doses mathematically inflates the DDD values making usage in the PICU appear significantly higher.

Weight-normalized simulations demonstrate that the modest DDD values in the NICU masks a substantial antimicrobial burden. This is clearly evidenced by the age-dependent escalation of Ampicillin regimens; while a child may receive a standard 250 mg dose four times daily, a neonate’s regimen is strictly governed by postnatal age to account for evolving clearance rates. In the first week of life, Ampicillin is administered at 30 mg/kg every 12 h, with the frequency increasing to every 8 or 6 h as the infant approaches 28 days of life. Although a 3 kg neonate may register a DDD nearly 7.5 times lower than a 15 kg toddler, the relative biological pressure per kilogram remains elevated due to reduced renal clearance capacity. Given that neonatal GFR is much lower than pediatric reference values, even relatively small doses can impose considerable metabolic stress. This systemic exposure indicates that the neonatal “resistome” faces aggressive selection pressure, even when quantitative metrics appear low. Specifically, the transition from fetal CYP3A7 to adult-like CYP3A4 activity, alongside accelerated GFR, necessitates precise titration in the first week of life [10,11]. In contrast, the PICU’s utilization of Ceftriaxone (19.31 DDD/100 bed-days) signals a migration toward broad-spectrum “Watch” agents, which facilitate metagenomic disruption and the expansion of multidrug-resistant organisms (MDROs) [12,22,23].

Within NICU, the prioritized use of Gentamicin (1.59 DDD/100 bed-days) reflects its role as a standard-of-care empirical agent for sepsis [24]. However, data reveals an acute dependence on Aminoglycosides that introduces severe molecular liabilities. At Haji hospital, the 13 mg daily dose for a 2.6 kg neonate exceeds the weight-adjusted equivalent of an adult DDD (9 mg/day), confirming its high therapeutic density. Beyond its efficacy, high-dose Gentamicin acts as a primary trigger for iatrogenic injury [25]. It is important to note that intracellular accumulation of aminoglycosides triggers irreversible hair cell apoptosis, leading to permanent sensorineural hearing loss, a process validated in pediatric audiological surveillance [26,27]. Intracellular accumulation then activates parallel pathways of necroptosis and apoptosis, fueled by reactive oxygen species and caspase signaling [26,28]. Because these mechanosensory cells lack regenerative capacity, the resulting sensorineural hearing loss is permanent [27]. Additionally, presence of lipopolysaccharide (LPS) during sepsis can exacerbate this ototoxicity, further compromising neonatal hearing outcomes [29]. These cytotoxic risks demonstrates the need of stewardship frameworks that favor weight-normalized safety profiles over traditional, adult-indexed consumption data.

4.3. AWaRe Framework Alignment and Global Stewardship

A qualitative audit using the WHO AWaRe classification revealed a disparity in stewardship performance between the two hospitals, characterized by the public hospital achieving a 92.21% “Access” group proportion and a robust Access-to-Watch ratio of 11.84 in 2025. In contrast, the private hospital struggled to meet global benchmarks, with the NICU falling below the 60% “Access” target (51.71%) and the PICU exhibiting a concerning 71.27% of “Watch” category agents. This intensive broad-spectrum reliance is mirrored in pediatric critical care units similarly in Brazil and South Africa, as well as recent evidence from Southeast Asia indicating high rates of “Watch” and “Reserve” antibiotic utilization among neonates in the region [30–33]. Beyond administrative metrics, gut resistome theory suggests that this prolonged dependence on cephalosporins and carbapenems serves as a selective driver that disrupts early microbiome assembly, depleting microbial alpha diversity and expanding the intestinal reservoir of antibiotic resistance genes (ARGs) [14]. Accordingly, the high Access-to-Watch ratio observed at the public facility represents a critical ecological intervention. By prioritizing “Access” agents, the facility not only aligns with global stewardship goals but actively preserves the integrity of the developing neonatal microbiome against the long-term selection pressure and horizontal gene transfer of multidrug-resistant organisms.

Our inclusion of the 2025 antibiogram data (Table S6) confirms that, while non-susceptibility to first line “Access” agents like Ampicillin was observed in *E. coli*, Gram-positive pathogens maintained high sensitivity ($\geq 81\%$) to alternative “Access” agents such as Gentamicin and Amikacin. This local sensitivity pattern justifies the “Access-prioritized” stewardship strategies utilized at Haji Hospital and emphasizes that clinical guidelines must be calibrated against localized microbiological surveillance.

Furthermore, our statistical findings indicate that antibiotic appropriateness is a key modifiable determinant of hospital length of stay (LOS). The observed significant ~17% reduction in LOS associated with appropriate therapy suggests that adherence to stewardship protocols not only improves individual patient outcomes but also significantly reduces the institutional resource burden. This underscores that effective stewardship in Indonesian intensive care settings provides a dual benefit: enhancing clinical safety while achieving economic efficiency by minimizing prolonged hospitalizations.

4.4. Limitations

This investigation is subject to several limitations that warrant consideration. Its retrospective design limits the ability to perform a detailed assessment of additional clinical information, such as correlations between specific antimicrobial selections, real-time laboratory culture results, and adherence to bedside clinical pathways. In addition, Defined Daily Dose (DDD) provides a standardized metric for cross-ward comparison, its derivation from adult-centric dosing (based on a 70 kg standard) introduces a mathematical oversimplification bias when applied to neonatal and pediatric cohorts as DDD may not fully reflect the biological burden or the precision of weight-tailored regimens necessitated by dynamic PK ontogeny and the evolving renal clearance of early life [28]. Additionally, the lack of prospective microbiological data limits our ability to directly link prescribing patterns to changes in the gut microbiome. Future research should focus on measuring Days of Therapy (DOT), which is independent of adult dosing standards, and incorporating longitudinal metagenomic analysis of fecal samples would provide a more robust understanding of how antimicrobial stewardship can actively mitigate the expansion of the neonatal resistome within the intensive care landscape [30].

5. Conclusions

This multicenter analysis demonstrates that the seven-fold difference in antimicrobial density between the PICU and NICU is driven by weight-based dosing requirements. Although absolute doses appear lower in neonates, weight-normalized simulations reveal a substantial biological burden as drug exposure is concentrated within a smaller mass and governed by immature renal clearance. Neonatal resistome remains under aggressive selection pressure despite adult-indexed metrics, suggesting lower consumption, while the high utilization of “Watch” agents in the private sector (71.27%) acts as a selective driver for microbiome disruption and the expansion of resistance genes. The significant relationship between appropriate therapy and reduced length of stay ($\beta = -0.187$) proving that stewardship is one of the primary drivers of clinical recovery speed. It is recommended that healthcare facilities must institutionalize “Access-prioritized” protocols and transition toward weight-normalized monitoring, ensuring that stewardship evolves to treat the preservation of the developing metagenome and the prevention of iatrogenic molecular injury as primary clinical outcomes that account for the rapid physiological maturation of intensive care patients.

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/biomedicines14051080/s1>, Table S1: Patient Demographic Characteristics; Table S2: Diagnosis or condition of NICU and PICU; Table S3: DDD/100 Bed-days PICU; Table S4: DDD/100 Bed-days NICU; Table S5: AWaRe Categorization Between Hospitals; Table S6: Antibiotic Sensitivity Profiles (Antibiogram) of Blood Specimens in Haji Hospital, 2025.

Author Contributions: Conceptualization, F.H. and R.Y.; methodology, K.K. and F.H.; software, K.K. and E.S.; validation, E.S., F.H., N.P.A. and R.Y.; formal analysis, K.K., F.A. and M.A.; investigation, E.S.; resources, N.P.A., F.A. and K.K.; data curation, E.S. and F.H.; writing—original draft preparation, F.H. and K.K.; writing—review and editing, E.S. and F.H.; supervision, R.Y.; project administration, R.Y. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board (or Ethics Committee) of the Health Research Ethics Committee (Ref. No: 21/KEP-RSHU/V/2025 date of approval: 28 May 2025) and authorized by the Hospital Director of Husada Utama Hospital; Ethics Committee Haji Hospital Provinsi Jawa Timur (Ref. No: 445/75/KOM.ETIK/2025 and Ref. No: 400.7.2.3/284/102.02/8.2.2025;

date of approval: 6 May 2025 and 5 November 2025). Due to the retrospective design and exclusive reliance on de-identified secondary medical records, the requirement for individual informed consent was waived by the respective Ethics Committees, as the investigation posed minimal risk and did not interfere with clinical care. To ensure patient privacy, all personal identifiers were removed during the extraction process, and findings are reported solely as aggregate data to ensure that individual identities remain protected and cannot be reconstructed from the research results.

Informed Consent Statement: Patient consent was waived due to the nature of data collection and use of aggregate data. The data have been combined and summarized so that individual participants cannot be identified.

Data Availability Statement: The original contributions presented in this study are included in the article/Supplementary Material. Further inquiries can be directed to the corresponding author.

Acknowledgments: We would like to express our deepest gratitude to the hospital for providing the necessary resources and support to enable us to conduct this research. We are also sincerely grateful to the Ethics Committee for their thorough review and approval, which ensured that the study adhered to ethical standards. Their guidance and approval were instrumental in the successful completion of this research.

Conflicts of Interest: The authors declare no conflicts of interest.

Abbreviations

The following abbreviations are used in this manuscript:

AMR	Antimicrobial Resistance
ARGs	Antimicrobial Resistance Genes
AWaRe	Access, Watch, Reserve
DDD	Defined Daily Dose
DOT	Days of Therapy
DU	Drug Utilization
GFR	Glomerular Filtration Rate
LOS	Length of Stay
LPS	Lipopolysaccharide
MDROs	Multidrug-Resistant Organisms
NICU	Neonatal Intensive Care Unit
PICU	Pediatric Intensive Care Unit
PK	Pharmacokinetics
PNA	Postnatal Age
WHO	World Health Organization

References

1. Abejew, A.A.; Wubetu, G.Y.; Fenta, T.G. Relationship between Antibiotic Consumption and Resistance: A Systematic Review. *Can. J. Infect. Dis. Med. Microbiol.* **2024**, *2024*, 9958678. [CrossRef] [PubMed]
2. World Health Organization. GHE: Leading Causes of Death. Available online: <https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates/ghe-leading-causes-of-death> (accessed on 16 January 2025).
3. Ahmad, F.B.; Cisewski, J.A.; Anderson, R.N. Leading Causes of Death in the US, 2019–2023. *JAMA* **2024**, *332*, 957–958. [CrossRef]
4. Ciapponi, A.; Bardach, A.; Sandoval, M.M.; Palermo, M.C.; Navarro, E.; Espinal, C.; Quirós, R. Systematic Review and Meta-analysis of Deaths Attributable to Antimicrobial Resistance, Latin America. *Emerg. Infect. Dis.* **2023**, *29*, 2335–2344. [CrossRef]
5. Amir, N.R.R.; Sauma, A.K.; Eryani, K.; Endraswari, P.D. Hubungan resistensi antibiotik pada pasien sepsis dan COVID-19: Literatur review. *J. Farm. UIN Alauddin Makassar* **2024**, *12*, 9–18. [CrossRef]
6. World Health Organization. AWaRe Classification Database of Antibiotics. 2023. Available online: <https://aware.essentialmeds.org/list> (accessed on 16 January 2025).
7. Klein, E.Y.; Impalli, I.; Poleon, S.; Denoel, P.; Cipriano, M.; Van Boeckel, T.P.; Pecetta, S.; Bloom, D.E.; Nandi, A. Global Trends in Antibiotic Consumption during 2016–2023 and future projections through 2030. *Proc. Natl. Acad. Sci. USA* **2024**, *121*, e2411919121. [CrossRef]

8. Ture, Z.; Güner, R.; Alp, E. Antimicrobial Stewardship in the Intensive Care Unit. *J. Intensive Med.* **2023**, *3*, 244–253. [\[CrossRef\]](#)
9. Regazzi, M.; Berardi, A.; Picone, S.; Tzialla, C. Pharmacokinetic and Pharmacodynamic Considerations of Antibiotic Use in Neonates. *Antibiotics* **2023**, *12*, 1747. [\[CrossRef\]](#)
10. Rivera-Chaparro, N.D.; Cohen-Wolkowicz, M.; Greenberg, R.G. Dosing antibiotics in neonates: Review of the pharmacokinetic data. *Future Microbiol.* **2017**, *12*, 1001–1016. [\[CrossRef\]](#) [\[PubMed\]](#)
11. Ojeda, A.; Akinsuyi, O.; McKinley, K.L.; Xhumari, J.; Triplett, E.W.; Neu, J.; Roesch, L.F.W. Increased antibiotic resistance in preterm neonates under early antibiotic use. *mSphere* **2024**, *9*, e0028624. [\[CrossRef\]](#)
12. Li, S.; Liu, J.; Zhang, X.; Gu, Q.; Wu, Y.; Tao, X.; Tian, T.; Pan, G.; Chu, M. The Potential Impact of Antibiotic Exposure on the Microbiome and Human Health. *Microorganisms* **2025**, *13*, 602. [\[CrossRef\]](#) [\[PubMed\]](#)
13. Heston, S.M.; Lim, C.S.E.; Ong, C.; Chua, M.C.; Kelly, M.S.; Yeo, K.T. Strain-resolved metagenomic analysis of the gut as a reservoir for bloodstream infection pathogens among premature infants in Singapore. *Gut Pathog.* **2023**, *15*, 55. [\[CrossRef\]](#)
14. Theophilus, R.J.; Taft, D.H. Antimicrobial Resistance Genes (ARGs), the Gut Microbiome, and Infant Nutrition. *Nutrients* **2023**, *15*, 3177. [\[CrossRef\]](#)
15. Lee, K.; Raguideau, S.; Sirén, K.; Asnicar, F.; Cumbo, F.; Hildebrand, F.; Segata, N.; Cha, C.-J.; Quince, C. Population-level impacts of antibiotic usage on the human gut microbiome. *Nat. Commun.* **2023**, *14*, 1191. [\[CrossRef\]](#) [\[PubMed\]](#)
16. Al-Momani, M.M. Admission patterns and risk factors linked with neonatal mortality: A hospital-based retrospective study. *Pak. J. Med. Sci.* **2020**, *36*, 1371–1376. [\[CrossRef\]](#)
17. Ilyes, S.-G.; Chiriac, V.D.; Gluhovschi, A.; Mihaela, V.; Dahma, G.; Mocanu, A.G.; Neamtu, R.; Silaghi, C.; Radu, D.; Bernad, E.; et al. The Influence of Maternal Factors on Neonatal Intensive Care Unit Admission and In-Hospital Mortality in Premature Newborns from Western Romania: A Population-Based Study. *Medicina* **2022**, *58*, 709. [\[CrossRef\]](#)
18. Pua Upa, N.F.; Widyati; Prasetyadi, F.O.H. Profil penggunaan antibiotik pada pasien pediatri rujukan berdasarkan sistem Defined Daily Dose (DDD). *Media Pharm. Indones.* **2020**, *3*, 40–51. [\[CrossRef\]](#)
19. Hidayat, F.; Setiadi, A.P.; Setiawan, E. Kajian Penggunaan Antibiotik pada Neonatus Intensive Care Unit di Sebuah Rumah Sakit pemerintah di Surabaya. *Indones. J. Clin. Pharm.* **2019**, *8*, 58–71. [\[CrossRef\]](#)
20. Yun, K.W. Community-acquired pneumonia in children: Updated perspectives on its etiology, diagnosis, and treatment. *Clin. Exp. Pediatr.* **2024**, *67*, 80–89. [\[CrossRef\]](#) [\[PubMed\]](#)
21. Sridharan, K.; Hasan, H.; Al Jufairi, M.; Al Daylami, A.; Pasha, S.A.A.; Al Ansari, E. Drug utilisation in adult, paediatric and neonatal intensive care units, with an emphasis on systemic antimicrobials. *Anaesthesiol. Intensive Ther.* **2021**, *53*, 18–24. [\[CrossRef\]](#)
22. Mahmudah, F.; Sumiwi, S.A.; Hartini, S. Study of the use of antibiotics with ATC/DDD system and DU 90% in digestive surgery. *Indones. J. Clin. Pharm.* **2016**, *5*, 293–298. [\[CrossRef\]](#)
23. Chen, D.; Cao, L.; Li, W. Etiological and clinical characteristics of severe pneumonia in pediatric intensive care unit (PICU). *BMC Pediatr.* **2023**, *23*, 362. [\[CrossRef\]](#) [\[PubMed\]](#)
24. Salsabila, K.; Toha, N.M.A.; Rundjan, L.; Pattanittum, P.; Sirikarn, P.; Rohsiswatmo, R.; Wandita, S.; Hakimi, M.; Lumbiganon, P.; Green, S.; et al. Early-onset neonatal sepsis and antibiotic use in Indonesia: A descriptive, cross-sectional study. *BMC Public Health* **2022**, *22*, 992. [\[CrossRef\]](#)
25. Puia-Dumitrescu, M.; Bretzius, O.M.; Brown, N.; Fitz-Henley, J.A.; Ssengonzi, R.; Wechsler, C.S.; Gray, K.D.; Benjamin, D.K., Sr.; Smith, P.B.; Clark, R.H.; et al. Evaluation of Gentamicin Exposure in the Neonatal Intensive Care Unit and Hearing Function at Discharge. *J. Pediatr.* **2018**, *203*, 131–136. [\[CrossRef\]](#) [\[PubMed\]](#)
26. Ruhl, D.; Du, T.-T.; Wagner, E.L.; Choi, J.H.; Li, S.; Reed, R.; Kim, K.; Freeman, M.; Hashisaki, G.; Lukens, J.R.; et al. Necroptosis and Apoptosis Contribute to Cisplatin and Aminoglycoside Ototoxicity. *J. Neurosci.* **2019**, *39*, 2951–2964. [\[CrossRef\]](#)
27. Rivetti, S.; Romano, A.; Mastrangelo, S.; Attinà, G.; Maurizi, P.; Ruggiero, A. Aminoglycoside-Related Ototoxicity: Mechanisms, Risk Factors, and Prevention in Pediatric Patients. *Pharmaceuticals* **2023**, *16*, 1353. [\[CrossRef\]](#) [\[PubMed\]](#)
28. Alharazneh, A.; Luk, L.; Huth, M.; Monfared, A.; Steyger, P.S.; Cheng, A.G.; Ricci, A.J. Functional hair cell mechanotransducer channels are required for aminoglycoside ototoxicity. *PLoS ONE* **2011**, *6*, e22347. [\[CrossRef\]](#)
29. Cross, C.P.; Liao, S.; Urdang, Z.D.; Srikanth, P.; Garinis, A.C.; Steyger, P.S. Effect of sepsis and systemic inflammatory response syndrome on neonatal hearing screening outcomes following gentamicin exposure. *Int. J. Pediatr. Otorhinolaryngol.* **2015**, *79*, 1915–1919. [\[CrossRef\]](#)
30. da Silva, A.R.A.; de Souza Oliveira, C.V.; Teixeira, C.H.; Leal, I. Use of the World Health Organization Access, Watch, and Reserve classification to follow trends in prescription of antibiotic use in two pediatric intensive care units in Rio de Janeiro, Brazil. *J. Pediatr. Infect. Dis.* **2020**, *15*, 155–160. [\[CrossRef\]](#)
31. Dramowski, A.; Prusakov, P.; Goff, D.A.; Brink, A.; Govender, N.P.; Annor, A.S.; Balfour, L.; Bekker, A.; Cassim, A.; Gijzelaar, M.; et al. Prospective antimicrobial stewardship interventions to reduce neonatal antibiotic use in South Africa (NeoAMS). *Int. J. Infect. Dis.* **2024**, *146*, 107158. [\[CrossRef\]](#)

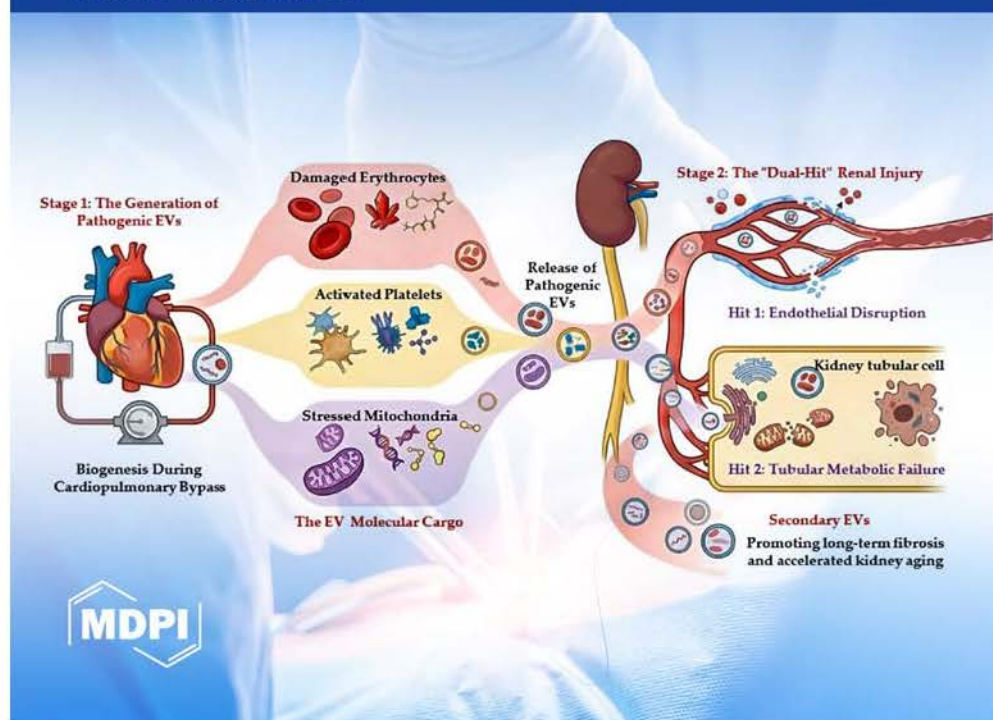
32. Harrison, M.L.; Dickson, B.F.R.; Villanueva-Uy, M.E.T.; Dwi Putri, N.; Adrizain, R.; Kartina, L.; Gunaratna, G.P.S.; Chandrasiri, N.S.; Tran, H.T.; Nguyen, H.X.; et al. High Rates of “Watch” and “Reserve” Class Antibiotics Used to Treat Infections in Neonates and Infants in Southeast Asia. *Pediatr. Infect. Dis. J.* **2025**, *44*, e113–e116. [[CrossRef](#)]
33. Fabre, V.; Cosgrove, S.E.; Hsu, Y.J.; Patel, T.S.; Lessa, F.C.; Alvarado, A.; Aquiles, B.; Arauz, A.B.; Barberis, M.F.; Bangher, M.D.C.; et al. Multicenter Evaluation of Antibiotic Use and Antibiotic Stewardship Programs in Latin American Hospitals. *Open Forum Infect. Dis.* **2025**, *12*, ofaf364. [[CrossRef](#)] [[PubMed](#)]

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.



Extracellular Vesicles Drive Kidney Injury After Cardiac Surgery

Volume 14 · Issue 5 May 2026



Editorial Board

- [Molecular and Translational Medicine Section \(/journal/biomedicines/sectioneditors/medicine\)](https://www.mdpi.com/journal/biomedicines/sectioneditors/medicine)
- [Cell Biology and Pathology Section \(/journal/biomedicines/sectioneditors/cell_pathology\)](https://www.mdpi.com/journal/biomedicines/sectioneditors/cell_pathology)
- [Cancer Biology and Oncology Section \(/journal/biomedicines/sectioneditors/cancer\)](https://www.mdpi.com/journal/biomedicines/sectioneditors/cancer)
- [Immunology and Immunotherapy Section \(/journal/biomedicines/sectioneditors/immuno\)](https://www.mdpi.com/journal/biomedicines/sectioneditors/immuno)
- [Neurobiology and Clinical Neuroscience Section \(/journal/biomedicines/sectioneditors/neuro\)](https://www.mdpi.com/journal/biomedicines/sectioneditors/neuro)
- [Drug Discovery, Development and Delivery Section \(/journal/biomedicines/sectioneditors/Drug_Discovery\)](https://www.mdpi.com/journal/biomedicines/sectioneditors/Drug_Discovery)
- [Endocrinology and Metabolism Research Section \(/journal/biomedicines/sectioneditors/endocrinology_metabolism\)](https://www.mdpi.com/journal/biomedicines/sectioneditors/endocrinology_metabolism) (https://www.mdpi.com/journal/biomedicines/sectioneditors/endocrinology_metabolism)
- [Gene and Cell Therapy Section \(/journal/biomedicines/sectioneditors/genetherapy\)](https://www.mdpi.com/journal/biomedicines/sectioneditors/genetherapy)
- [Biomedical Engineering and Materials Section \(/journal/biomedicines/sectioneditors/Biomed_Eng_Human_Health\)](https://www.mdpi.com/journal/biomedicines/sectioneditors/Biomed_Eng_Human_Health)
- [Molecular Genetics and Genetic Diseases Section \(/journal/biomedicines/sectioneditors/Genetics_Genetic_Diseases\)](https://www.mdpi.com/journal/biomedicines/sectioneditors/Genetics_Genetic_Diseases)
- [Microbiology in Human Health and Disease Section \(/journal/biomedicines/sectioneditors/Disease_Microbiology\)](https://www.mdpi.com/journal/biomedicines/sectioneditors/Disease_Microbiology)
- [Nanomedicine and Nanobiology Section \(/journal/biomedicines/sectioneditors/nanomedicine\)](https://www.mdpi.com/journal/biomedicines/sectioneditors/nanomedicine)

Please note that the order in which the Editors appear on this page is alphabetical, and follows the structure of the editorial board presented on the MDPI website under information for editors: [editorial board responsibilities \(/editors#Editorial_Board_Responsibilities\)](https://www.mdpi.com/journal/biomedicines/sectioneditors/medicine).

Members

Search by first name, last name, affiliation, int



Felipe Fregni

<https://www.hsph.harvard.edu/ecpe/faculty/felipe-fregni/>

Editor-in-Chief

1. Neuromodulation Center and Center for Clinical Research Learning, Spaulding Rehabilitation Hospital and Massachusetts General Hospital, Harvard Medical School, Boston, MA 02114, USA
2. Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, MA 02115, USA

Interests: neuromodulation; pain perception modulation; neurophysiology; neuroplasticity

Special Issues, Collections and Topics in MDPI journals



Veronique Baud *

<https://www.metacan.eu/teachers/veronique-baud/>

Section Editor-in-Chief

1. NF-kB, Differentiation and Cancer, University Paris Descartes, Sorbonne Paris Cité, 75014 Paris, France
2. Faculté de Pharmacie, 4 Avenue de l'Observatoire, 75006 Paris, France

Interests: interface between signal transduction and cancer with a focus on the alternative NF-kappaB signaling pathway, how it is regulated, and its contributions towards tumor development and resistance to

conventional cancer therapies

* Section: Cancer Biology and Oncology

Special Issues, Collections and Topics in MDPI journals

 [\(/toggle_desktop_layout_cookie\)](#)  



Timo Gaber *

Website (https://forschungsdatenbank.charite.de/experts/profile/timo_gaber/en)

Section Editor-in-Chief

1. Department of Rheumatology and Clinical Immunology, Charité—Universitätsmedizin Berlin, Corporate Member of Freie Universität Berlin and Humboldt-Universität zu Berlin, 10117 Berlin, Germany

2. German Rheumatism Research Centre (DRFZ) Berlin, a Leibniz Institute, 10117 Berlin, Germany

Interests: immunometabolism; mechanobiology; immunotherapy; cell metabolism; rheumatology; arthritis; osteoarthritis; osteoporosis

* Section: Immunology and Immunotherapy

Special Issues, Collections and Topics in MDPI journals



Erica Laudisi *

Website (<https://orcid.org/0000-0001-7380-0269>)

Section Editor-in-Chief

Department of Systems Medicine, University of Rome “Tor Vergata”, Rome, Italy

Interests: inflammatory bowel disease; intestinal inflammation; colorectal cancer; intestinal epithelial barrier; microbiota

* Section: Microbiology in Human Health and Disease

Special Issues, Collections and Topics in MDPI journals



Bernard Lebleu *

Website (https://www.ac-sciences-lettres-montpellier.fr/academie/membres/biographie/4119_LEBLEU-Bernard)

Section Editor-in-Chief

Laboratory of Pathogen Host Interactions, Biology-Health Department, Montpellier University, Montpellier, France

Interests: oligonucleotides-based therapeutics; peptide (cell penetrating peptides)-based delivery vectors; antisense oligonucleotides cellular trafficking

* Section: Gene and Cell Therapy

Special Issues, Collections and Topics in MDPI journals



Jun Lu *

Website (<http://profiles.auckland.ac.nz/jun-lu>)

Section Editor-in-Chief

Auckland Bioengineering Institute, University of Auckland, Auckland 1142, New Zealand

Interests: diabetes; obesity; cancer; non-communicable diseases; marine natural compounds; fucoidan; seaweed; clams; food chemistry; pharmacology; drug metabolism; pharmacokinetics; pre-clinical pharmacology; natural compound extraction; polyamine metabolism; marine bioactives

* Section: Drug Discovery, Development and Delivery

Special Issues, Collections and Topics in MDPI journals



Ming Ma *

 https://www.sic.cas.cn/sourcedb_sic_cas/zw/rck/202312/t20231211_6911679.html
Section Editor-in-Chief

Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, China

Interests: microfluidic synthesis; nanomedicine; high-throughput experimentation technologies; drug delivery; stem cell therapy

* Section: Biomedical Engineering and Materials

Special Issues, Collections and Topics in MDPI journals

 **Bruno Meloni ***

<https://www.perroninstitute.org/p/adjunct-associate-professor-bruno-meloni/>

Section Editor-in-Chief

1. Stroke Research Group, Perron Institute for Neurological and Translational Sciences, Nedlands, WA 6009, Australia

2. Centre for Neuromuscular and Neurological Disorders, The University of Western Australia, Nedlands, WA 6009, Australia

3. Department of Neurosurgery, Sir Charles Gairdner Hospital, Nedlands, WA 6009, Australia

Interests: neuroprotection; stroke; hypoxic-ischaemic encephalopathy; traumatic brain injury; *in vitro* neuronal cell injury models

* Section: Neurobiology and Clinical Neuroscience

Special Issues, Collections and Topics in MDPI journals

 **Stephen Riordan ***

<http://stephenriordan.com.au/>

Section Editor-in-Chief

1. Gastrointestinal and Liver Unit, Prince of Wales Hospital, Sydney, NSW 2031, Australia

2. Prince of Wales Clinical School, University of New South Wales, Sydney, NSW 2052, Australia

Interests: liver failure; hepatic encephalopathy; portal hypertension

* Section: Molecular and Translational Medicine

Special Issues, Collections and Topics in MDPI journals

 **Paul Rösch ***

https://de.wikipedia.org/wiki/Paul_R%C3%B6sch

Section Editor-in-Chief

Forschungszentrum für Bio-Makromoleküle (FZ BIOMac), University of Bayreuth, Bayreuth, Germany

Interests: NMR-spectroscopy; protein structures; viral proteins; bacterial proteins; transcription; translation; allergens; nuclear magnetic resonance; crystallography; electron microscopy; fluorescence spectroscopy

* Section: Cell Biology and Pathology

Special Issues, Collections and Topics in MDPI journals

 **Igor Tauveron ***

<https://www.chu-clermontferrand.fr/liste-services/endocrinologie-et-maladies-metaboliques/tauveron-igor>

Associate Editor

Department of Endocrinology, CHU Clermont Ferrand, 63000 Clermont-Ferrand, France

Interests: adrenal; pituitary; thyroid; calcium; diabetes; hyperlipidemia

* Section: Endocrinology and Metabolism Research



Prof. Isidoro

Website (<http://www.isidorolab.com/public/index.php/head/>)

Advisory Board Member

Laboratory of Molecular Pathology, Department of Health Sciences, Università del Piemonte Orientale "A. Avogadro", Via Solaroli 17, 28100 Novara, Italy

Interests: autophagy and protein metabolism in cancer and in neurodegeneration; epigenetics in cancer; nutraceuticals and probiotics in cancer and infectious diseases

[Special Issues, Collections and Topics in MDPI journals](#)

[Toggle desktop layout cookie](#)



Prof. Dong-Yan Jin

Website (<https://www.sbms.hku.hk/staff/dong-yan-jin>)

Advisory Board Member

School of Biomedical Sciences, The University of Hong Kong, Pokfulam 999077, Hong Kong, China

Interests: molecular virology and oncology

[Special Issues, Collections and Topics in MDPI journals](#)



Prof. Y. Abdalla

Website (<https://www.unmc.edu/pathology/faculty/abdalla.html>)

Editorial Board Member

Department of Pathology and Microbiology, University of Nebraska Medical Center, Omaha, NE 68198, USA

Interests: oxidative stress and free radical biology; microbial infections; tumor immunology; cancer biology; PC metastasis

[Special Issues, Collections and Topics in MDPI journals](#)



Prof. Chul Ahn

Website (<https://profiles.utsouthwestern.edu/profile/93944/chul-ahn.html>)

Editorial Board Member

Department of Population and Data Sciences, UT Southwestern Medical Center, Dallas, TX 75390, USA

Interests: design of clinical trials; statistical analysis; design of preclinical trials



Prof. Mohammed A. Aleskandarany

Website (<https://www.derby.ac.uk/staff/mohammed-aleskandarany/>)

Editorial Board Member

University of Department of Biomedical and Forensic Science, University Derby, Derby DE22 1GB, UK

Interests: translational cancer research for developing prognostic and predictive tools to improve cancer patients' outcome—this is through refining the currently used prognostic and predictive parameters and mining for novel ones for accurate patients' risk stratification and personalised management

Dr. Michele Ammendola

Website (<https://dmcs.unicz.it/personale/docente/micheleammendola>)

Editorial Board Member

Department of Health Science, Digestive Surgery Unit, Medical School, University "Magna Graecia", Viale Europa, Germaneto, 88100 Catanzaro, Italy

Interests: surgical oncology; angiogenesis and lymphangiogenesis in gastrointestinal tumor; molecular aspects; traslational reserch in surgery



Dr. Ryan M. Anderson

Website (<https://metabolism.uchicago.edu/faculty/ryan-anderson/>)   

Editorial Board Member

Department of Medicine, The University of Chicago, Chicago, IL 60637, USA

Interests: developmental biology; regeneration; pancreas; diabetes; zebrafish



Rafael Angeles-Castellanos

Website (<https://orcid.org/0000-0002-6496-9465>)

Editorial Board Member

Facultad de Medicina, Universidad Nacional Autónoma de Mexico, Ciudad de México 04510, Mexico

Interests: circadian rhythms and behavior; neuroscience; human anatomy; neuroanatomy; obesity



Stefano Angioni

Website (<https://orcid.org/0000-0002-2314-0028>)

Editorial Board Member

Department of Surgical Sciences, University of Cagliari, Cagliari, Italy

Interests: endometriosis; minimally invasive surgery; PCOS



Branimir Anić

Website (<https://mef.unizg.hr/en/o-nama/ustroj/uprava/dekanski-kolegij/>)

Editorial Board Member

1. Division of Clinical Immunology and Rheumatology, Department of Internal Medicine, University Hospital Center Zagreb, 10000 Zagreb, Croatia

2. School of Medicine, University of Zagreb, 10000 Zagreb, Croatia

Interests: rheumatology; internal medicine; clinical immunology



Angelo Antonini

Website (<https://pnc.unipd.it/antonini-angelo/>)

Editorial Board Member

Parkinson and Movement Disorders Unit, Department of Neurosciences (DNS), Padova University, 35131 Padova, Italy

Interests: multimodal neuroimaging; circuits and cellular neuroscience; cognitive, affective and behavioral neuroscience; translational and clinical neuroscience; computational neuroscience

Special Issues, Collections and Topics in MDPI journals



Ubaldo Armato

Website (<https://www.dscomi.univr.it/?ent=persona&id=1027&lang=en>)

Editorial Board Member

Human Histology & Embryology Section, Department of Surgery, Dentistry, Paediatrics & Gynaecology, University of Verona Medical School, 37134 Verona, Italy

Interests: tissue engineering; tissue regeneration; skin; vessels; biomaterials; silk fibroin; exosomes; Alzheimer's disease; astrocytes; neuroinflammation



Hossam Ashour

Website (<https://www.usf.edu/arts-sciences/departments/ib/people/faculty/hossam-ashour.aspx>)

Editorial Board Member

[\(toggle desktop layout cookie\)](#)

Department of Integrative Biology, College of Arts and Sciences, University of South Florida, St. Petersburg, FL, USA

Interests: immune tolerance; autoimmune diseases; multiple sclerosis; rheumatoid arthritis; type 1 diabetes; systemic lupus erythematosus; microbiology; infectious diseases; health; animal models; COVID-19; Antimicrobial resistance (AMR), Multidrug resistance (MDR), Zoonosis



Maria Azzariti

Website (<https://orcid.org/0000-0002-6149-5049>)

Editorial Board Member

Laboratory of Experimental Pharmacology, IRCCS Istituto Tumori Giovanni Paolo II, V.le O. Flacco, 65, 70124 Bari, Italy

Interests: cancer cells apoptosis; cancer therapy; cancer diagnostics; gemcitabine/nabpaclitaxel in pancreatic cancer; cancer research; cancer biomarkers; cell cycle regulation; signal transduction; phosphorylation; cell migration

Dr. Germana Bancone

Website (<https://www.tropicalmedicine.ox.ac.uk/team/germana-bancone>)

Editorial Board Member

1. Shoklo Malaria Research Unit, Mahidol-Oxford Tropical Medicine Research Unit, Faculty of Tropical Medicine, Mahidol University, Mae Sot, Thailand

2. Centre for Tropical Medicine and Global Health, Nuffield Department of Medicine, University of Oxford, Oxford, UK

Interests: inherited red blood cells disorders; malaria; diagnostics; iron deficiency

Prof. Dr. Bo-Ying Bao

Website (http://webap.cmu.edu.tw/TchEportfolio/index_1/bao)

Editorial Board Member

Department of Pharmacy, China Medical University, Taichung 406, Taiwan

Interests: cancer; molecular epidemiology; prognosis; biomarker; prostate



Maria Belluzzi

Website (<https://www.unipd.it/en/contatti/rubrica/?detail=Y&ruolo=1&checkout=cerca&persona=BELLUZZI&key=862E9D8750FA8DEC911BE0A195148777>)

Editorial Board Member

1. Musculoskeletal Pathology and Oncology Laboratory, Department of Surgery, Oncology and Gastroenterology (DISCOG), University of Padova, 35129 Padova, Italy

2. Orthopedics and Orthopedic Oncology, Department of Surgery, Oncology and Gastroenterology (DiSCOG), University of Padova, 35129 Padova, Italy

Interests: inflammation; molecular biology; cell biology; osteoarthritis; cartilage; musculoskeletal diseases; bone cancer; synovium; infrapatellar fat pad; chondrosarcoma

Special Issues, Collections and Topics in MDPI journals



Prof. Lars Bertram

Website (<https://research.uni-luebeck.de/en/persons/lars-bertram>)

Editorial Board Member

Lübeck Interdisciplinary Platform for Genome Analytics (LIGA), University of Lübeck, Lübeck, Germany

Interests: genomics; epigenomics; transcriptomics; brain aging; neurodegeneration; Alzheimer's disease; Parkinson's disease

Displaying Editorial board member 1-30 on page 1 of 22.

Go to page [1](#) [2](#) (/journal/biomedicines/editors?page_no=2) [3](#) (/journal/biomedicines/editors?page_no=3) [4](#) (/journal/biomedicines/editors?page_no=4) [5](#) (/journal/biomedicines/editors?page_no=5) [>](#) (/journal/biomedicines/editors?page_no=2) [>1](#) (/journal/biomedicines/editors?page_no=22)

Biomedicines (</journal/biomedicines>), EISSN 2227-9059, Published by MDPI

[RSS](/rss/journal/biomedicines) (</rss/journal/biomedicines>) **[Content Alert](/journal/biomedicines/toc-alert)** (</journal/biomedicines/toc-alert>)

Further Information

[Article Processing Charges](/apc) (</apc>)

[Pay an Invoice](/about/payment) (</about/payment>)

[Open Access Policy](/openaccess) (</openaccess>)

[Contact MDPI](/about/contact) (</about/contact>)

[Jobs at MDPI](https://careers.mdpi.com) (<https://careers.mdpi.com>)

Guidelines

[For Authors](/authors) (</authors>)

[For Reviewers](/reviewers) (</reviewers>)

[For Editors](/editors) (</editors>)

[For Librarians](/librarians) (</librarians>)

[For Publishers](/publishing_services) (/publishing_services)

[For Societies](/societies) (</societies>)

[For Conference Organizers](/conference_organizers) (/conference_organizers)

MDPI Initiatives

[Sciforum](https://sciforum.net) (<https://sciforum.net>)

[MDPI Books](https://www.mdpi.com/books) (<https://www.mdpi.com/books>)

[Preprints.org](https://www.preprints.org) (<https://www.preprints.org>)

[Scilit \(https://www.scilit.com\)](https://www.scilit.com)

MDPI ⁽¹⁾

[SciProfiles \(https://sciprofiles.com?](https://sciprofiles.com?utm_source=mpdi.com&utm_medium=bottom_menu&utm_campaign=initiative)

[utm_source=mpdi.com&utm_medium=bottom_menu&utm_campaign=initiative\)](https://sciprofiles.com?utm_source=mpdi.com&utm_medium=bottom_menu&utm_campaign=initiative)

[Encyclopedia \(https://encyclopedia.pub\)](https://encyclopedia.pub)

[toggle desktop layout cookie](#) 🔍 ☰

[JAMS \(https://jams.pub\)](https://jams.pub)

[Proceedings Series \(/about/proceedings\)](/about/proceedings)

Follow MDPI

[LinkedIn \(https://www.linkedin.com/company/mdpi\)](https://www.linkedin.com/company/mdpi)

[Facebook \(https://www.facebook.com/MDPIOpenAccessPublishing\)](https://www.facebook.com/MDPIOpenAccessPublishing)

[X \(https://x.com/MDPIOpenAccess\)](https://x.com/MDPIOpenAccess)

Subscribe to receive issue release
notifications and newsletters from
MDPI journals

Select options ▼

Enter your email address...

Subscribe

© 1996-2026 MDPI (Basel, Switzerland) unless otherwise stated

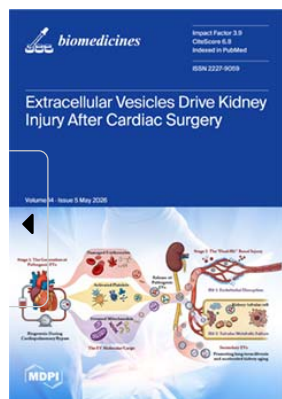
[Disclaimer](#) [Legal Notice \(/about/legal-notice\)](/about/legal-notice)

[Terms and Conditions \(/about/terms-and-conditions\)](/about/terms-and-conditions) [Privacy Policy \(/about/privacy\)](/about/privacy)

[Privacy Settings](#) [Accessibility \(/accessibility\)](/accessibility)

Biomedicines, Volume 14, Issue 5 (May 2026)

– 228 articles



([https://](https://www.mdpi.com/2227-9059/14/5/982)

www.mdpi.com/2227-9059/14/5/982)

Cover Story ([view full-size image \(/files/uploaded/covers/biomedicines/big_cover-biomedicines-v14-i5.png\)](#)): Cardiac surgery saves lives but triggers a hidden threat. The cardiopulmonary bypass circuit generates mechanical and oxidative stress, releasing extracellular vesicles from blood cells and vascular tissues that carry toxic cargo, including hemoglobin, mitochondrial DNA, and microRNAs, directly to the kidney. In this dual-hit mechanism, the first hit disrupts the renal endothelium via nitric oxide scavenging and endothelial-to-mesenchymal transition. In contrast, the second induces tubular cell death via mitochondrial fragmentation and ferroptosis. This framework explains why renal dysfunction persists despite optimal perfusion. Understanding the EV vector opens new possibilities for early biomarker detection and targeted therapies, including extracorporeal EV removal and mitochondria-targeted pharmacotherapy to protect the kidney. **View this paper** (<https://www.mdpi.com/2227-9059/14/5/982>)

- Issues are regarded as officially published after their release is announced to the [table of contents alert mailing list \(/journal/biomedicines/toc-alert\)](#).
- You may [sign up for e-mail alerts \(/journal/biomedicines/toc-alert\)](#) to receive table of contents of newly released issues.
- PDF is the official format for papers published in both, html and pdf forms. To view the papers in pdf format, click on the "PDF Full-text" link, and use the free [Adobe Reader \(http://www.adobe.com/\)](http://www.adobe.com/) to open them.

Order results

Publication Date

Result details

Normal

Section

All Sections

Show export options ▾

Open Access Article

21 pages, 335 KB

[\(/2227-9059/14/5/1176/pdf?version=1779372978\)](https://www.mdpi.com/2227-9059/14/5/1176/pdf?version=1779372978)

Pulmonary Function in Parkinson's Disease: A Comparative Study of Spirometry and Impulse Oscillometry (/2227-9059/14/5/1176)

by **Alexandra-Cristiana Gache, Elena Dant ş, Ariadna-Petronela Fildan, Andreea-Cristina Postu, Viorica Zamfir, Adina-Milena Man, Nicoleta-Larisa Şerban, Irene R şanu and Any Axelerad**

Biomedicines **2026**, *14*(5), 1176; <https://doi.org/10.3390/biomedicines14051176> (<https://doi.org/10.3390/biomedicines14051176>) - 21 May 2026

Viewed by 707

Abstract Background/Objectives: Respiratory dysfunction in Parkinson's disease (PD) is a clinically relevant but frequently underrecognized manifestation associated with functional impairment and increased risk of respiratory complications. This study compared spirometry and impulse oscillometry (IOS) in the assessment of respiratory function in PD, with particular [...] [Read more.](#)

(This article belongs to the Special Issue [Advances in Parkinson's Disease Research](#) (/journal/biomedicines/special_issues/54AW7Y7VG6))

Open Access Article

18 pages, 2281 KB

[\(/2227-9059/14/5/1175/pdf?version=1779370763\)](/2227-9059/14/5/1175/pdf?version=1779370763)

Effects of IncobotulinumtoxinA in the Infraorbital Nerve Chronic Constriction Injury Model of Trigeminal Pain in Rats (</2227-9059/14/5/1175>)

by Wojciech Danysz, Paulina Nunez-Badinez, Andreas Gravius, Klaus Fink and Jens Nagel

Biomedicines **2026**, *14*(5), 1175; <https://doi.org/10.3390/biomedicines14051175> (<https://doi.org/10.3390/biomedicines14051175>) - 21 May 2026

Viewed by 538

Abstract Background/Objectives: Trigeminal neuralgia (TN) is a debilitating neurological condition characterized by recurrent, severe pain linked to peripheral and central sensitization within trigeminal pathways. Current pharmacologic treatments are limited by inadequate efficacy or dose-limiting side effects, and botulinum neurotoxin type A (BoNT/A) has [...] [Read more.](#)

(This article belongs to the Special Issue [Advances in Pain Management: Exploring Molecular Mechanisms and Novel Therapies](#) (/journal/biomedicines/special_issues/9BKX2ZZ952))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01175/article_deploy/html/images/biomedicines-14-01175-g001-550.jpg?1779370848) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01175/article_deploy/html/images/biomedicines-14-01175-g002-550.jpg?1779370850) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01175/article_deploy/html/images/biomedicines-14-01175-g003-550.jpg?1779370852) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01175/article_deploy/html/images/biomedicines-14-01175-g004-550.jpg?1779370854) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01175/article_deploy/html/images/biomedicines-14-01175-g005-550.jpg?1779370856)

Open Access Article

16 pages, 1461 KB

[\(/2227-9059/14/5/1174/pdf?version=1779452882\)](/2227-9059/14/5/1174/pdf?version=1779452882)

Evaluation of the Anti-Inflammatory Activity of Selected Plant Extracts in an In Vitro Model of Inflammation Using LPS-Stimulated Macrophages (</2227-9059/14/5/1174>)

by Karolina Merecz, Kinga Suska, Olga Biniszewska, Mikołaj Hirska, Aneta Wojdyło, Aleksandra Tarasiuk-Zawadzka and Jakub Fichna

Biomedicines **2026**, *14*(5), 1174; <https://doi.org/10.3390/biomedicines14051174> (<https://doi.org/10.3390/biomedicines14051174>) - 21 May 2026

Viewed by 559

Abstract Background: Inflammatory bowel disease (IBD), including Crohn's disease (CD) and ulcerative colitis (UC), is a group of chronic gastrointestinal (GI) diseases with complex and multifactorial pathophysiology. The global prevalence of IBD is increasing, highlighting the need to develop new therapeutic approaches. Plant-derived extracts [...] [Read more](#). (This article belongs to the Special Issue **Inflammatory Bowel Diseases: New Diagnostic and Therapeutic Approaches—Second Edition** (/journal/biomedicines/special_issues/2J80PU1QK9))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01174/article_deploy/html/images/biomedicines-14-01174-g001-550.jpg?1779453053) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01174/article_deploy/html/images/biomedicines-14-01174-g002-550.jpg?1779453055) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01174/article_deploy/html/images/biomedicines-14-01174-g003-550.jpg?1779453058) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01174/article_deploy/html/images/biomedicines-14-01174-g004-550.jpg?1779453059)

Open Access Article 12 pages, 1741 KB (</2227-9059/14/5/1173/pdf?version=1779442069>)

Histological Assessment of Plasma-Induced Tissue Sublimation Using the Plasma IQ Device: An Ex Vivo Morphometric Study in a Porcine Model (</2227-9059/14/5/1173>)

by Paweł Kubik, Wojciech Gruszczyński, Aleksandra Pawłowska, Maciej Malinowski, Brygida Baran, Agnieszka Pawłowska-Kubik, Łukasz Kodłubański, Dariusz Grzanka, Paulina Antosik and Bartłomiej Łukasik

Biomedicines **2026**, *14*(5), 1173; <https://doi.org/10.3390/biomedicines14051173> (<https://doi.org/10.3390/biomedicines14051173>) - 21 May 2026

Viewed by 455

Abstract Background: Minimally invasive aesthetic procedures using atmospheric plasma devices are increasingly applied to improve skin laxity and age-related loss of firmness. These systems generate a localized plasma arc at the tissue surface, enabling controlled and spatially confined tissue interaction; however, quantitative histological [...] [Read more](#).

(This article belongs to the Section **Molecular and Translational Medicine** (</journal/biomedicines/sections/medicine>))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01173/article_deploy/html/images/biomedicines-14-01173-g001-550.jpg?1779442162) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01173/article_deploy/html/images/biomedicines-14-01173-g002-550.jpg?1779442167) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01173/article_deploy/html/images/biomedicines-14-01173-g003-550.jpg?1779442171)

Open Access Article 11 pages, 462 KB (</2227-9059/14/5/1172/pdf?version=1779362929>)

Women with Abdominal Aortic Aneurysms Have a Different Pattern of Genetic Variability,

Compared to Men (/2227-9059/14/5/1172)

by **MDPI** (I) **Jonas Wallinder, Anders Wanhainen, Helena Åkerud, Dick Wågsäter and Martin Björck**

Biomedicines **2026**, *14*(5), 1172; <https://doi.org/10.3390/biomedicines14051172> (<https://doi.org/10.3390/biomedicines14051172>) - 21 May 2026

[\(toggle desktop layout cookie\)](#)  

Viewed by 429

Abstract Background/Objectives: The etiology behind sex differences in the prevalence of abdominal aortic aneurysm (AAA) can only partly be explained by environmental factors such as smoking. Genetic factors are also likely to be part of the explanation since family history is common. We hypothesized [...]

Read more.

(This article belongs to the Special Issue **Aortic Aneurysm: Mechanisms, Biomarkers, and Therapeutic Strategy** (/journal/biomedicines/special_issues/I8Q6I15BW5))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01172/article_deploy/html/images/biomedicines-14-01172-g001-550.jpg?1779363037) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01172/article_deploy/html/images/biomedicines-14-01172-g002-550.jpg?1779363037)

Open Access Article

18 pages, 2123 KB

[\(/2227-9059/14/5/1171/pdf?version=1779362581\)](/2227-9059/14/5/1171/pdf?version=1779362581) 

Circulating Lymphocyte Subsets Are Associated with Diabetic Kidney Disease and Overall Survival in Patients with Type 2 Diabetes (/2227-9059/14/5/1171)

by **Guanglan Li, Jiayi Chen, Chenfeng Xu, Ganyuan He, Feng Yu, Wei Liu, Yanhua Wu, Wenke Hao and Wenxue Hu**

Biomedicines **2026**, *14*(5), 1171; <https://doi.org/10.3390/biomedicines14051171> (<https://doi.org/10.3390/biomedicines14051171>) - 21 May 2026

doi.org/10.3390/biomedicines14051171) - 21 May 2026

Viewed by 527

Abstract Background: The immune mechanism of diabetic kidney disease (DKD) has not yet been fully elucidated. This study aimed to characterize circulating lymphocyte subsets in patients with type 2 diabetes mellitus (T2DM), with a particular focus on DKD-related immune alterations and prognosis.

Methods: Circulating [...] **Read more.**

(This article belongs to the Section **Immunology and Immunotherapy** (</journal/biomedicines/sections/immuno>))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01171/article_deploy/html/images/biomedicines-14-01171-g001-550.jpg?1779362684) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01171/article_deploy/html/images/biomedicines-14-01171-g002-550.jpg?1779362686) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01171/article_deploy/html/images/biomedicines-14-01171-g003-550.jpg?1779362690) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-01171-g004-550.jpg?1779362691](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01171/article_deploy/html/images/biomedicines-14-01171-g004-550.jpg?1779362691)) (<https://pub.mdpi-res.com/biomedicines/biomedicines-14-01171/>)

Open Access Article

11 pages, 362 KB

(/2227-9059/14/5/1170/pdf?version=1779443854) 

Neutrophil–Lymphocyte–Platelet Ratio for Predicting Bacteremia in Immunosuppressed Cancer Patients: A Retrospective Diagnostic Accuracy Study (/2227-9059/14/5/1170)

by José Manuel Martinez, Ana Espírito Santo, Pedro Leite, Ana Pinho, Ana Rita Carneiro, Ana Maria Oliveira, Diana Ramada and Rui Medeiros

Biomedicines **2026**, *14*(5), 1170; <https://doi.org/10.3390/biomedicines14051170> (<https://doi.org/10.3390/biomedicines14051170>) - 21 May 2026

Viewed by 422 

Abstract Background: Early identification of bacteremia in immunosuppressed cancer patients remains difficult, especially in neutropenia. This study evaluated the diagnostic accuracy of NLR, PLR, and NLPR for identifying bacteremia and sepsis in patients undergoing blood culture episode. **Methods:** We conducted a retrospective diagnostic accuracy [...] **Read more.**

(This article belongs to the Special Issue **Emerging Trends in Cancer: Biomarkers, Therapeutic Strategies and Future Directions (/journal/biomedicines/special_issues/797A0NI9FD)**)

 **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01170/article_deploy/html/images/biomedicines-14-01170-g001-550.jpg?1779443982)

Open Access Article

17 pages, 21449 KB

(/2227-9059/14/5/1169/pdf?version=1779357796)

Tissue microRNA Profiling Identifies Prognostic Signatures in Prostate Cancer and Highlights CPEB3 as a Candidate Biomarker (/2227-9059/14/5/1169)

by Jae-Heon Kim, Ah-Rim Moon, Miho Song, Kwang-Woo Lee, Soo Min Suh, Hui Ji Kim, Luis Alfonso Pefianco, Kevin Andrean, Seongho Ryu and Yun-Seob Song

Biomedicines **2026**, *14*(5), 1169; <https://doi.org/10.3390/biomedicines14051169> (<https://doi.org/10.3390/biomedicines14051169>) - 21 May 2026

Viewed by 404

Abstract Purpose: Prostate cancer is one of the most common malignancies in men, yet current prognostic methods remain suboptimal. Emerging evidence indicates that microRNAs (miRNAs) play critical roles in prostate cancer progression. This study aimed to identify miRNAs associated with adverse clinical outcomes [...] **Read more.**

(This article belongs to the Special Issue **Emerging Trends in Cancer: Biomarkers, Therapeutic Strategies and Future Directions (/journal/biomedicines/special_issues/797A0NI9FD)**)

 **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01169/article_deploy/html/images/biomedicines-14-01169-g001-550.jpg?1779357884) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01169/article_deploy/html/images/biomedicines-14-01169-g002a-550.jpg?1779357884)

1779357887) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01169/article_deploy/html/images/biomedicines-14-01169-g002b-550.jpg?1779357890) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01169/article_deploy/html/images/biomedicines-14-01169-g002c-550.jpg?1779357893) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01169/article_deploy/html/images/biomedicines-14-01169-g003-550.jpg?1779357897) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01169/article_deploy/html/images/biomedicines-14-01169-g004-550.jpg?1779357898) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01169/article_deploy/html/images/biomedicines-14-01169-g005-550.jpg?1779357898)

13 pages, 874 KB [\(/2227-9059/14/5/1168/pdf?version=1779357350\)](https://doi.org/10.3390/biomedicines14051168/pdf?version=1779357350)

Open Access Systematic Review

Association Between SGLT2 Inhibitor Use and Hepatocellular Carcinoma Risk in Type 2 Diabetes: A Systematic Review and Meta-Analysis ([/2227-9059/14/5/1168](https://doi.org/10.3390/biomedicines14051168))

by Jing-Hong Hu, Ming-Ling Chang, Tung-Jung Huang, Nai-Jen Liu and Jui-Hsiang Tang

Biomedicines **2026**, *14*(5), 1168; <https://doi.org/10.3390/biomedicines14051168> (<https://doi.org/10.3390/biomedicines14051168>) - 21 May 2026

Viewed by 517

Abstract Background and Aims: Type 2 diabetes mellitus is a recognized risk factor for hepatocellular carcinoma (HCC), particularly in the setting of metabolic dysfunction-associated steatotic liver disease (MASLD), chronic viral hepatitis, advanced fibrosis, and cirrhosis. Beyond hyperglycemia and insulin resistance, diabetic hepatocarcinogenesis is [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** ([/journal/biomedicines/sections/medicine](https://www.mdpi.com/journal/biomedicines/sections/medicine)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01168/article_deploy/html/images/biomedicines-14-01168-g001-550.jpg?1779357434) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01168/article_deploy/html/images/biomedicines-14-01168-g002-550.jpg?1779357436)

Open Access Article 20 pages, 4717 KB [\(/2227-9059/14/5/1167/pdf?version=1779764998\)](https://doi.org/10.3390/biomedicines14051167/pdf?version=1779764998)

Integrative Analysis of Major Depressive Disorder and Ovarian Cancer: From Genetic Association to Single-Cell Mechanisms ([/2227-9059/14/5/1167](https://doi.org/10.3390/biomedicines14051167))

by Chen Liu, Xueling Wang and Jiaqi Lu

Biomedicines **2026**, *14*(5), 1167; <https://doi.org/10.3390/biomedicines14051167> (<https://doi.org/10.3390/biomedicines14051167>) - 21 May 2026

Viewed by 469

Abstract Background: Although emerging evidence indicates that major depressive disorder (MDD) raises the risk of developing ovarian cancer (OC) and worsens survival, the biological mechanisms underlying this relationship remain unclear. This study explores the MDD-OC association using single-

cell transcriptomics and genetic approaches. **Methods:** Using [...] [Read more.](#)

(This article belongs to the Section **Molecular and Translational Medicine** (</journal/biomedicines/sections/medicine>))

► [Show Figures](#)

⌕ [./toggle_desktop_layout_cookie](#) 🔍 ☰

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01167/article_deploy/html/images/biomedicines-14-01167-g001-550.jpg?1779765148) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01167/article_deploy/html/images/biomedicines-14-01167-g002-550.jpg?1779765151) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01167/article_deploy/html/images/biomedicines-14-01167-g003-550.jpg?1779765154) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01167/article_deploy/html/images/biomedicines-14-01167-g004-550.jpg?1779765158) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01167/article_deploy/html/images/biomedicines-14-01167-g005-550.jpg?1779765162) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01167/article_deploy/html/images/biomedicines-14-01167-g006-550.jpg?1779765165) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01167/article_deploy/html/images/biomedicines-14-01167-g007-550.jpg?1779765167) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01167/article_deploy/html/images/biomedicines-14-01167-g008-550.jpg?1779765170) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01167/article_deploy/html/images/biomedicines-14-01167-g009-550.jpg?1779765172)

Open Access Article

23 pages, 20877 KB

[./2227-9059/14/5/1166/pdf?version=1779355109](/2227-9059/14/5/1166/pdf?version=1779355109) 🔗

Development of Type II Glucose Transporter Inhibitors: Phloretin as a GLUT-2 Screening Template from *In Silico* Modeling to *In Vitro* Assessment (</2227-9059/14/5/1166>)

by Worarat Boonpech, Pemikar Srifa, Dhassida Sooksawat, Praopim Limsakul, Jirakrit Saetang, Varomyalin Tipmanee, Krit Charupanit, Chaitong Churuangsuk and Kantida Juncheed

Biomedicines **2026**, *14*(5), 1166; <https://doi.org/10.3390/biomedicines14051166> (<https://doi.org/10.3390/biomedicines14051166>) - 21 May 2026

Viewed by 520

Abstract Background/Objectives: Hepatocellular carcinoma (HCC) exhibits enhanced glycolytic activity, primarily facilitated by Class I glucose transporters (GLUTs), particularly GLUT-2. Phloretin, a natural polyphenol, is known to modulate glucose transport; however, its isoform-specific interactions and functional impact on HCC metabolism remain unclear. This study compared [...] [Read more.](#)

(This article belongs to the Special Issue **Advanced Research in Anticancer Inhibitors and Targeted Therapy** (/journal/biomedicines/special_issues/FMZJL1S92U))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01166/article_deploy/html/images/biomedicines-14-01166-ag-550.jpg?1779355190) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01166/article_deploy/html/images/biomedicines-14-01166-g001-550.jpg?1779355190)

1779355176) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01166/article_deploy/html/images/biomedicines-14-01166-g002-550.jpg?1779355177) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01166/article_deploy/html/images/biomedicines-14-01166-g003-550.jpg?1779355178) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01166/article_deploy/html/images/biomedicines-14-01166-g004-550.jpg?1779355179) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01166/article_deploy/html/images/biomedicines-14-01166-g005-550.jpg?1779355180) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01166/article_deploy/html/images/biomedicines-14-01166-g006-550.jpg?1779355181) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01166/article_deploy/html/images/biomedicines-14-01166-g007-550.jpg?1779355183) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01166/article_deploy/html/images/biomedicines-14-01166-g008-550.jpg?1779355184) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01166/article_deploy/html/images/biomedicines-14-01166-g009-550.jpg?1779355185) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01166/article_deploy/html/images/biomedicines-14-01166-g010-550.jpg?1779355186)

Open Access Article

16 pages, 1073 KB

(/2227-9059/14/5/1165/pdf?version=1779354462)

NSAID Use Attenuates the Protective Effect of Physical Activity on Chronic Low Back Pain: A Cross-Sectional Analysis of NHANES 2009–2010 (/2227-9059/14/5/1165)

by William Sosa, Lucas Camargo and Felipe Fregni

Biomedicines **2026**, *14*(5), 1165; <https://doi.org/10.3390/biomedicines14051165> (<https://doi.org/10.3390/biomedicines14051165>) - 21 May 2026

Viewed by 477

Abstract Background: Chronic low back pain (CLBP) is a leading cause of disability worldwide, with exercise endorsed as first-line treatment and non-steroidal anti-inflammatory drugs (NSAIDs) among the most used pharmacologic options. These interventions are frequently combined in clinical practice, yet their synergistic effects [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** (/journal/biomedicines/sections/medicine))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01165/article_deploy/html/images/biomedicines-14-01165-g001-550.jpg?1779354638) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01165/article_deploy/html/images/biomedicines-14-01165-g002-550.jpg?1779354639) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01165/article_deploy/html/images/biomedicines-14-01165-g0A1-550.jpg?1779354641) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01165/article_deploy/html/images/biomedicines-14-01165-g0A2-550.jpg?1779354642) (<https://pub.mdpi-res.com/biomedicines/biomedicines-14-01165/>)

Association Between Clinical Signs and CBCT-Confirmed TMJ Involvement in Juvenile Idiopathic Arthritis: The Diagnostic Value of Facial Asymmetry and Mandibular Mobility
(/2227-9059/14/5/1164)

by Tamara Pawlaczyk-Kamieńska and Tomasz Kulczyk

Biomedicines **2026**, *14*(5), 1164; <https://doi.org/10.3390/biomedicines14051164> (<https://doi.org/10.3390/biomedicines14051164>) - 21 May 2026

Viewed by 532

Abstract Juvenile idiopathic arthritis (JIA) is the most common systemic chronic inflammatory connective tissue disease in children, characterized by joint inflammation lasting at least six months. Temporomandibular joint (TMJ) involvement can occur in conjunction with other joints and may often be asymptomatic in its [...] [Read more.](#)

(This article belongs to the Special Issue **Pathogenesis and Novel Diagnostic Techniques in Juvenile Idiopathic Arthritis—Second Edition** (/journal/biomedicines/special_issues/228FI4CHE3))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01164/article_deploy/html/images/biomedicines-14-01164-g001-550.jpg?1779349732) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01164/article_deploy/html/images/biomedicines-14-01164-g002-550.jpg?1779349734) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01164/article_deploy/html/images/biomedicines-14-01164-g003-550.jpg?1779349737)

Cannabidiol in Periodontal Therapy—Is There Hope or Just a Bias? A Systematic Review
(/2227-9059/14/5/1163)

by Ruxandra Ștefănescu, Amelia Tero-Vescan, Camil-Eugen Vari, Dragoș Sita and Bianca-Eugenia Ősz

Biomedicines **2026**, *14*(5), 1163; <https://doi.org/10.3390/biomedicines14051163> (<https://doi.org/10.3390/biomedicines14051163>) - 20 May 2026

Viewed by 773

Abstract Background: Periodontitis is a chronic inflammatory disease characterized by dysbiotic biofilm formation, progressive destruction of periodontal tissues, and alveolar bone resorption. Conventional periodontal therapy primarily focuses on mechanical biofilm removal; however, adjunctive therapeutic approaches targeting host inflammatory responses and microbial activity have gained [...] [Read more.](#)

(This article belongs to the Section **Drug Discovery, Development and Delivery** (/journal/biomedicines/sections/Drug_Discovery))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01163/article_deploy/html/images/

 [biomedicines-14-01163-g001-550.jpg?1779759206](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01163-g001-550.jpg?1779759206)) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01163/article_deploy/html/images/biomedicines-14-01163-g002-550.jpg?1779759207) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01163/article_deploy/html/images/biomedicines-14-01163-g003-550.jpg?1779759210)

Open Access Review 48 pages, 1144 KB [\(/2227-9059/14/5/1162/pdf?version=1779288208\)](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01162/pdf?version=1779288208)

Strategies for Optimizing Genetic Mouse Models to Enhance the Understanding of Parkinson's Disease (/2227-9059/14/5/1162)

by Zhiqiang Shen, Linlin Ma and George D. Mellick

Biomedicines **2026**, *14*(5), 1162; <https://doi.org/10.3390/biomedicines14051162> (<https://doi.org/10.3390/biomedicines14051162>) - 20 May 2026

Viewed by 536

Abstract Background: Parkinson's disease (PD) has become the fastest-growing neurodegenerative disorder worldwide. A valuable approach for unraveling the disease's mechanisms and new therapeutic targets involves investigating the PD-causing genes identified in families exhibiting the Mendelian inheritance of parkinsonism. **Methods:** In this article, [...] **Read more.**

(This article belongs to the Special Issue **Animal Models of Human Pathology: Revision, Relevance and Refinements (4th Edition)** ([/journal/biomedicines/special_issues/XA1D2DVS53](https://journal.biomedicines.com/special_issues/XA1D2DVS53)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01162/article_deploy/html/images/biomedicines-14-01162-g001-550.jpg?1779288395)

Open Access Review 47 pages, 1607 KB [\(/2227-9059/14/5/1161/pdf?version=1779777829\)](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01161/pdf?version=1779777829) 

From Metabolically Healthy to Unhealthy Obesity Through Low-Grade Inflammation (/2227-9059/14/5/1161)

by Anastasia Voznesenskaya, Alyona Sorokina, Marina Shestakova, Ekaterina Shestakova, Ildar Minniakhmetov, Anna Ivanova, Sergey Rumyantsev, Natalia Mokrysheva, Vladimir Chekhonin and Marina Loguinova

Biomedicines **2026**, *14*(5), 1161; <https://doi.org/10.3390/biomedicines14051161> (<https://doi.org/10.3390/biomedicines14051161>) - 20 May 2026

Viewed by 556

Abstract Of the many clinical phenotypes of obesity, the most prevalent are metabolically “healthy” (MHO) and metabolically “unhealthy” (MUO) obesities, the latter being associated with a range of comorbidities, including type 2 diabetes mellitus (T2DM). The underlying causes of different obesity phenotypes and the [...] **Read more.**

(This article belongs to the Special Issue **Obesity and Obesity-Related Pathology** ([/journal/biomedicines/special_issues/6JQ9E920E1](https://journal.biomedicines.com/special_issues/6JQ9E920E1)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01161/article_deploy/html/images/biomedicines-14-01161-g001-550.jpg?1779777923) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01161/article_deploy/html/images/biomedicines-14-01161-g002-550.jpg?1779777924)

 [biomedicines-14-01161/article_deploy/html/images/biomedicines-14-01161-g002-550.jpg?1779777925](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01161/article_deploy/html/images/biomedicines-14-01161-g002-550.jpg?1779777925) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01161/article_deploy/html/images/biomedicines-14-01161-g003-550.jpg?1779777926)  [\(/toggle_desktop_layout_cookie\)](#)  

Open Access Article

17 pages, 575 KB

[\(/2227-9059/14/5/1160/pdf?version=1779441397\)](#)

Sex and Atrial Fibrillation Independently Stratify Cardiac Remodeling and Outcomes in Heart Failure with Preserved Ejection Fraction (/2227-9059/14/5/1160)

by Diana-Ruxandra Hădăreanu, Flavia-Mihaela Stoiculescu, Călin-Dinu Hădăreanu, Maria-Livia Iovănescu, Anca Mihu-Marinescu, Georgică-Costinel Târtea, Ionuț Donoiu, Oana Munteanu-Mirea, Răzvan-Ilie Radu, Eugen-Nicolae Țieranu, Octavian Istrătoae and Cristina Florescu

Biomedicines **2026**, *14*(5), 1160; <https://doi.org/10.3390/biomedicines14051160> (<https://doi.org/10.3390/biomedicines14051160>) - 20 May 2026

Viewed by 342

Abstract Background/Objectives: Atrial fibrillation (AF) is common in heart failure with preserved ejection fraction (HFpEF) and is associated with worse symptoms and prognosis. Emerging evidence suggests that sex modifies the AF–HFpEF relationship through differences in atrial remodeling, comorbidity burden, and hemodynamic vulnerability. This [...] **Read more.**

(This article belongs to the Special Issue **Arrhythmia: Mechanisms, Biomarkers, and Emerging Therapies (/journal/biomedicines/special_issues/111ZNTFPJG)**)

► **Show Figures**

https://pub.mdpi-res.com/biomedicines/biomedicines-14-01160/article_deploy/html/images/biomedicines-14-01160-g001-550.jpg?1779441474

Open Access Correction

3 pages, 564 KB

[\(/2227-9059/14/5/1159/pdf?version=1779285005\)](#)

Correction: Di Crosta et al. Valemetostat–SAHA-Driven Acetylation of p53 via SET/TAF-I β Displacement and p300 Activation Modulates Cell Cycle Regulators in Pancreatic Cancer Cells. *Biomedicines* 2025, 13, 2279 (/2227-9059/14/5/1159)

by Michele Di Crosta, Francesca Chiara Ragone, Rossella Benedetti, Gabriella D’Orazi, Roberta Santarelli, Maria Saveria Gilardini Montani and Mara Cirone

Biomedicines **2026**, *14*(5), 1159; <https://doi.org/10.3390/biomedicines14051159> (<https://doi.org/10.3390/biomedicines14051159>) - 20 May 2026

Viewed by 267

Abstract In the original publication [...] **Full article (/2227-9059/14/5/1159)**

(This article belongs to the Section **Cell Biology and Pathology (/journal/biomedicines/sections/cell_pathology)**)

► **Show Figures**

https://pub.mdpi-res.com/biomedicines/biomedicines-14-01159/article_deploy/html/images/biomedicines-14-01159-g005-550.jpg?1779285132

Open Access Article

20 pages, 4449 KB

[\(/2227-9059/14/5/1158/pdf?version=1779432081\)](#) 

Multimodal Factor Analysis Reveals Five Robust Phenotypes of Healthy Aging in a Russian Population Cohort (/2227-9059/14/5/1158)

by Lyubov V. Machekhina, Alexandra A. Melnitskaya, Mikhail S. Arbatskiy, Anna V. Permyakova, Alexey V. Churov, Irina D. Strazhesko and Olga N. Tkacheva   
Biomedicines **2026**, *14*(5), 1158; <https://doi.org/10.3390/biomedicines14051158> (<https://doi.org/10.3390/biomedicines14051158>) - 20 May 2026

Viewed by 404

Abstract Background/Objectives: Population aging necessitates a shift from disease-focused paradigms to a holistic characterization of biological aging processes. While chronological age remains the primary metric, it poorly captures inter-individual variability in physiological resilience and health trajectories. This study aimed to identify robust, multidimensional aging [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine (/journal/biomedicines/sections/medicine)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01158/article_deploy/html/images/biomedicines-14-01158-g001-550.jpg?1779432159) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01158/article_deploy/html/images/biomedicines-14-01158-g002-550.jpg?1779432160) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01158/article_deploy/html/images/biomedicines-14-01158-g003-550.jpg?1779432160) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01158/article_deploy/html/images/biomedicines-14-01158-g004-550.jpg?1779432161) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01158/article_deploy/html/images/biomedicines-14-01158-g005-550.jpg?1779432161)

Open Access Article 14 pages, 3786 KB [\(/2227-9059/14/5/1157/pdf?version=1779769573\)](https://doi.org/10.3390/biomedicines14051157/pdf?version=1779769573) 

Bonding Performance of Etch-and-Rinse and Universal Adhesives for Metal Bracket Fixation: An In Vitro Mechanical and SEM Study (/2227-9059/14/5/1157)

by Cristina Iosif, Anca Labunet, Andreea Kui, Stanca Cuc, Marioara Moldovan and Sorina Sava
Biomedicines **2026**, *14*(5), 1157; <https://doi.org/10.3390/biomedicines14051157> (<https://doi.org/10.3390/biomedicines14051157>) - 20 May 2026

Viewed by 273

Abstract Background: Durable adhesion between orthodontic brackets and enamel is essential for successful fixed orthodontic therapy. Despite simplified adhesive systems being available, conventional etch-and-rinse adhesives remain widely used due to their reliable enamel bonding. **Methods:** This in vitro study evaluated the bonding performance of [...] **Read more.**

(This article belongs to the Special Issue **Biomedicine in Dental and Oral Rehabilitation (/journal/biomedicines/special_issues/WGN1YN5W9Y)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01157/article_deploy/html/images/biomedicines-14-01157-g001-550.jpg?1779769638) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-01157-g002-550.jpg?1779769638](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01157/article_deploy/html/images/biomedicines-14-01157-g002-550.jpg?1779769638))

 [biomedicines-14-01157/article_deploy/html/images/biomedicines-14-01157-g002-550.jpg?1779769638](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01157/article_deploy/html/images/biomedicines-14-01157-g002-550.jpg?1779769638)) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01157/article_deploy/html/images/biomedicines-14-01157-g003-550.jpg?1779769638) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01157/article_deploy/html/images/biomedicines-14-01157-g004-550.jpg?1779769639) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01157/article_deploy/html/images/biomedicines-14-01157-g005-550.jpg?1779769640) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01157/article_deploy/html/images/biomedicines-14-01157-g006-550.jpg?1779769644) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01157/article_deploy/html/images/biomedicines-14-01157-g007-550.jpg?1779769645)

Open Access Brief Report 15 pages, 10544 KB [\(/2227-9059/14/5/1156/pdf?version=1779271059\)](https://doi.org/10.3390/biomedicines14051156/pdf?version=1779271059)

Effects of Transcutaneous Spinal Direct Current Stimulation on Cognitive and Psychological Outcomes in Multiple Sclerosis: A Preliminary Case Series ([/2227-9059/14/5/1156](https://doi.org/10.3390/biomedicines14051156))

by Carmelo Campo, Daniele Saccenti, Angelica De Sandi, Denise Mellace, Simona Mrakic-Sposta, Sara Marceglia, Maurizio Vergari, Andrea Arighi, Alberto Priori and Roberta Ferrucci

Biomedicines **2026**, *14*(5), 1156; <https://doi.org/10.3390/biomedicines14051156> (<https://doi.org/10.3390/biomedicines14051156>) - 20 May 2026

Viewed by 433

Abstract Introduction: Multiple Sclerosis (MS) is frequently associated with a range of neurological, cognitive and psychological issues, presenting significant challenges to patients' Quality of Life (QoL). Among non-invasive neuromodulation techniques, transcutaneous spinal Direct Current Stimulation (tsDCS) is emerging as a potential approach for [...] **Read more.**

(This article belongs to the Special Issue **Non-Invasive Brain Stimulation Techniques and Their Application in the Study of Cognitive Function Physiology and Neuro-Psychiatric Rehabilitation** ([/journal/biomedicines/special_issues/IHYVCM5169](https://journal.biomedicines/special_issues/IHYVCM5169)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01156/article_deploy/html/images/biomedicines-14-01156-g001-550.jpg?1779271126) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01156/article_deploy/html/images/biomedicines-14-01156-g002-550.jpg?1779271126)

Open Access Review 27 pages, 1134 KB [\(/2227-9059/14/5/1155/pdf?version=1779270260\)](https://doi.org/10.3390/biomedicines14051155/pdf?version=1779270260)

RIPK 1 in Alzheimer's Disease: Research Progress Integrating Pathogenesis on Necroptosis-Related Neuroinflammation, and Potential Therapeutic Strategies ([/2227-9059/14/5/1155](https://doi.org/10.3390/biomedicines14051155))

by Ezgi Sila Toklucu, Shiqian Shen, Changning Wang and Can Zhang

Biomedicines **2026**, *14*(5), 1155; <https://doi.org/10.3390/biomedicines14051155> (<https://doi.org/10.3390/biomedicines14051155>) - 20 May 2026

Viewed by 667

Abstract Background/Objectives: Alzheimer's disease (AD) is the most common cause of dementia

worldwide; however, there is incomplete understanding of AD pathogenesis, and there are few disease-modifying treatments for AD. Research has begun to demonstrate that necroptosis, which is a regulated type of cell [...] [Read more.](#)

(This article belongs to the Special Issue [New Molecular Insights into the Pathogenesis and Drug Development of Neurodegenerative Diseases: 2nd Edition](#) ([./journal/biomedicines/special_issues/O3MD2U8E39](#)))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01155/article_deploy/html/images/biomedicines-14-01155-g001-550.jpg?1779270366) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01155/article_deploy/html/images/biomedicines-14-01155-g002-550.jpg?1779270370)

Open Access Article 26 pages, 957 KB ([./2227-9059/14/5/1154/pdf?version=1779270156](#))

Machine Learning-Based Prediction of Ultrasound-Detected Hepatic Steatosis Within the Metabolic Dysfunction-Associated Steatotic Liver Disease Spectrum Using Routine Clinical and Biochemical Parameters ([./2227-9059/14/5/1154](#))

by Canan Akkus, Gamze Sonmez, Ali Sahin, Yigit Yazarkan, Melis Gokgoz, Feride Caglar and Sanem Kayhan

Biomedicines **2026**, *14*(5), 1154; <https://doi.org/10.3390/biomedicines14051154> (<https://doi.org/10.3390/biomedicines14051154>) - 20 May 2026

Viewed by 441

Abstract Background/Objectives: Metabolic dysfunction-associated steatotic liver disease (MASLD) is now the leading cause of chronic liver disease globally, mirroring the increasing prevalence of obesity, insulin resistance, and type 2 diabetes. Early detection of hepatic steatosis is vital for cardiometabolic risk assessment; however, conventional imaging [...] [Read more.](#)

(This article belongs to the Special Issue [Emerging Trends in Liver Diseases and Cirrhosis Research](#) ([./journal/biomedicines/special_issues/T6356B20E4](#)))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01154/article_deploy/html/images/biomedicines-14-01154-g001-550.jpg?1779270274) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01154/article_deploy/html/images/biomedicines-14-01154-g002-550.jpg?1779270276) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01154/article_deploy/html/images/biomedicines-14-01154-g003-550.jpg?1779270278)

Open Access Article 14 pages, 533 KB ([./2227-9059/14/5/1153/pdf?version=1779430313](#))

Associations Between Neuropathy, Nephropathy and Hearing Loss in Individuals with Type 2 Diabetes ([./2227-9059/14/5/1153](#))

by Joutiar Razay, Jesper Hvass Schmidt, Mette K. Andersen, Jens S. Nielsen, Michael Hecht Olsen and Thomas Bastholm Olesen

Biomedicines **2026**, *14*(5), 1153; <https://doi.org/10.3390/biomedicines14051153> (<https://doi.org/10.3390/biomedicines14051153>)

Abstract Aims: The aim of this study was to investigate the associations between symptomatic hearing loss (HL), neuropathy, and nephropathy in subjects with Type 2 diabetes mellitus (T2DM). Furthermore, the study evaluated whether HL was associated with chronic low-grade inflammation, assessed based on [...]. **Read more.**

(This article belongs to the Special Issue **Risk Factors and Molecular Mechanisms in Diabetes and Cardiovascular Complications** (/journal/biomedicines/special_issues/23W8A2665B))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01153/article_deploy/html/images/biomedicines-14-01153-g001-550.jpg?1779430401)

Open Access Review

13 pages, 1396 KB

(</2227-9059/14/5/1152/pdf?version=1779432473>)

Navigated Transcranial Magnetic Stimulation (nTMS): From Functional Brain Mapping to Clinical Applications in Neurosurgery and Neurology (</2227-9059/14/5/1152>)

by Marcin Karol Setlak, Bartłomiej Błaszczuk, Maciej Wojtacha and Adam Rudnik

Biomedicines **2026**, *14*(5), 1152; <https://doi.org/10.3390/biomedicines14051152> ([https://](https://doi.org/10.3390/biomedicines14051152)

doi.org/10.3390/biomedicines14051152) - 19 May 2026

Viewed by 440

Abstract Introduction: Navigated transcranial magnetic stimulation (nTMS) is an advanced, noninvasive method for stimulation-based functional brain mapping. Its main clinical value in neurosurgery lies in preoperative identification of eloquent cortical areas and the integration of functional information into neuronavigation-based surgical planning. **State of the [...]** **Read more.**

(This article belongs to the Special Issue **Intraoperative Neurophysiology: New Perspectives and Clinical Applications** (/journal/biomedicines/special_issues/8B279034I9))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01152/article_deploy/html/images/biomedicines-14-01152-g001-550.jpg?1779432577) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01152/article_deploy/html/images/biomedicines-14-01152-g002-550.jpg?1779432580)

Open Access Article

26 pages, 5074 KB

(</2227-9059/14/5/1151/pdf?version=1779190811>)

Wavelet-Enhanced CNN for Breast Ultrasound Classification Under Speckle Noise (</2227-9059/14/5/1151>)

by Ratapong Onjun, Tanakorn Sritarapipat and Sayan Kaennakham

Biomedicines **2026**, *14*(5), 1151; <https://doi.org/10.3390/biomedicines14051151> ([https://](https://doi.org/10.3390/biomedicines14051151)

doi.org/10.3390/biomedicines14051151) - 19 May 2026

Viewed by 453

Abstract Background/Objectives: Ultrasound is widely used for breast cancer screening and diagnosis, particularly in low- and middle-income settings, but its diagnostic reliability is often compromised by speckle noise that degrades lesion margins and tissue texture. This study proposes a

compact convolutional neural network architecture [...] [Read more.](#)

(This article belongs to the Special Issue [AI/Machine Learning-Driven Multi-Omics Research in Oncology](#) ([/journal/biomedicines/special_issues/XRI5S3I538](#)))

► [Show Figures](#)

 [\(/toggle_desktop_layout_cookie\)](#)  

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01151/article_deploy/html/images/biomedicines-14-01151-g001-550.jpg?1779190884) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01151/article_deploy/html/images/biomedicines-14-01151-g002-550.jpg?1779190889) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01151/article_deploy/html/images/biomedicines-14-01151-g003-550.jpg?1779190893) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01151/article_deploy/html/images/biomedicines-14-01151-g004-550.jpg?1779190894) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01151/article_deploy/html/images/biomedicines-14-01151-g005-550.jpg?1779190895)

Open Access Article

13 pages, 597 KB

[\(/2227-9059/14/5/1150/pdf?version=1779183034\)](#) 

[Liver Fibrosis Estimated Using Noninvasive Blood Biochemical Indices Is Correlated with Visit-to-Visit Glycated Hemoglobin A1c Variability in Individuals with Type 2 Diabetes](#) ([/2227-9059/14/5/1150](#))

by Yousuke Kaneko, Taiki Hori, Kohsuke Miyataka, Takahito Asai, Tomoyo Hara, Hiroki Yamagami, Toshiki Otoda, Tomoyuki Yuasa, Akio Kuroda, Shingen Nakamura, Itsuro Endo, Munehide Matsuhisa, Ken-ichi Matsuoka and Ken-ichi Aihara

Biomedicines **2026**, *14*(5), 1150; <https://doi.org/10.3390/biomedicines14051150> (<https://doi.org/10.3390/biomedicines14051150>) - 19 May 2026

Viewed by 465

Abstract Background/Objectives: Visit-to-visit glycated hemoglobin A1c (HbA1c) variability is associated with cardiovascular diseases (CVDs) and all-cause mortality, independent of mean HbA1c levels. Metabolic dysfunction–associated steatotic liver disease (MASLD) is associated with CVDs and mortality. We aimed to clarify the association between annual HbA1c variability [...] [Read more.](#)

(This article belongs to the Section [Endocrinology and Metabolism Research](#) ([/journal/biomedicines/sections/endocrinology_metabolism](#)))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01150/article_deploy/html/images/biomedicines-14-01150-g001-550.jpg?1779183162) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01150/article_deploy/html/images/biomedicines-14-01150-g002-550.jpg?1779183165)

Open Access Article

13 pages, 702 KB

[\(/2227-9059/14/5/1149/pdf?version=1779176271\)](#)

[Association of Preoperative Platelet-Activating Factor and Postoperative C-Reactive Protein with Inflammatory Burden and Early Outcomes After Major Cardiac Surgery](#) ([/2227-9059/14/5/1149](#))

by Adrian Stef, Gabriel Cismaru, Aurelia Georgeta Solomonean, Nadina Tintiuc,

Tudor-Mihai Magdaş and Alexandru Oprea

Biomedicines **2026**, *14*(5), 1149; <https://doi.org/10.3390/biomedicines14051149> (<https://doi.org/10.3390/biomedicines14051149>) - 19 May 2026

Viewed by 392

 [\(/toggle_desktop_layout_cookie\)](#)  

Abstract Background: Major cardiac surgery with cardiopulmonary bypass (CPB) induces a systemic inflammatory response that contributes to postoperative organ dysfunction and hemodynamic instability. While C-reactive protein (CRP) is a well-established downstream marker of postoperative inflammation, the upstream determinants of interindividual variability in inflammatory burden [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** (</journal/biomedicines/sections/medicine/>))

 **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01149/article_deploy/html/images/biomedicines-14-01149-g001-550.jpg?1779176342) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01149/article_deploy/html/images/biomedicines-14-01149-g002-550.jpg?1779176343) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01149/article_deploy/html/images/biomedicines-14-01149-g003-550.jpg?1779176345)

Open Access Retraction

1 pages, 134 KB

[\(/2227-9059/14/5/1148/pdf?version=1779177934\)](/2227-9059/14/5/1148/pdf?version=1779177934)

RETRACTED: Li et al. Protective Effects of Astaxanthin Supplementation Against Ultraviolet-Induced Photoaging in Hairless Mice. *Biomedicines* 2020, 8, 18 (</2227-9059/14/5/1148>)

by Xing Li, Tomohiro Matsumoto, Miho Takuwa, Mahmood Saeed Ebrahim Shaiku Ali, Takumi Hirabashi, Hiroyo Kondo and Hidemi Fujino

Biomedicines **2026**, *14*(5), 1148; <https://doi.org/10.3390/biomedicines14051148> (<https://doi.org/10.3390/biomedicines14051148>) - 19 May 2026

Viewed by 356

Abstract The journal has retracted the article “Protective Effects of Astaxanthin Supplementation against Ultraviolet-Induced Photoaging in Hairless Mice” [...] **Full article** (</2227-9059/14/5/1148>)

(This article belongs to the Section **Drug Discovery, Development and Delivery** (/journal/biomedicines/sections/Drug_Discovery/))

Open Access Review

14 pages, 268 KB

[\(/2227-9059/14/5/1147/pdf?version=1779165148\)](/2227-9059/14/5/1147/pdf?version=1779165148)

Metabolic Dysfunction-Associated Steatotic Liver Disease: An Update Narrative Review of the Therapeutic Potential of Combining Probiotics and Metformin (</2227-9059/14/5/1147>)

by Syifa Mustika, Sri Utami, Nur Estu Wijayanti Saputri, Levrita Nindya Poetri, Putu Ijiya Danta Awatara, Achmad Rudijanto, Hery Djagat Purnomo, Cosmas Rinaldi A. Lesmana and Ahmad Taufiq

Biomedicines **2026**, *14*(5), 1147; <https://doi.org/10.3390/biomedicines14051147> (<https://doi.org/10.3390/biomedicines14051147>) - 19 May 2026

Viewed by 622

Abstract Metabolic dysfunction-associated steatotic liver disease (MASLD) has replaced older exclusion-based terminology as the preferred term for steatotic liver disease associated with

cardio-metabolic risk factors. MASLD is now among the most common causes of chronic liver disease and may progress from simple steatosis to [...] [Read more.](#)

(This article belongs to the Section [Molecular and Translational Medicine \(/journal/biomedicines/sections/medicine\)](#) [\(/toggle_desktop_layout_cookie\)](#)  

Open Access Article

14 pages, 311 KB

[\(/2227-9059/14/5/1146/pdf?version=1779460369\)](#)

Gender Differences in Circulating TFAM Levels Are Associated with Functional Impairment and Sarcopenia (/2227-9059/14/5/1146)

by Olga Laosa, Aitor Carretero, Leocadio Rodríguez-Mañas, Jose Antonio Carnicero, José Viña, Maria Carmen Gómez-Cabrera, Javier Angulo, Francisco José García-García and Mariam El Assar *Biomedicines* **2026**, *14*(5), 1146; <https://doi.org/10.3390/biomedicines14051146> (<https://doi.org/10.3390/biomedicines14051146>) - 18 May 2026

Viewed by 337

Abstract Background/Objectives: Mitochondrial dysfunction contributes to age-related muscle decline. Mitochondrial transcription factor A (TFAM), a key regulator of mitochondrial biogenesis, may serve as a marker of chronic inflammation and cellular stress when released into circulation following mitochondrial damage. However, its association with functional [...] [Read more.](#)

(This article belongs to the Topic [Muscle Aging and Sarcopenia: Mechanisms, Metabolic Regulation, and Intervention Strategies \(/topics/M40D1AAN2M\)](#))

► [Show Figures](#)

https://pub.mdpi-res.com/biomedicines/biomedicines-14-01146/article_deploy/html/images/biomedicines-14-01146-g001-550.jpg?1779460513

Open Access Article

17 pages, 2766 KB

[\(/2227-9059/14/5/1145/pdf?version=1779356910\)](#) 

HIF-1 α Promotes Macrophage Extracellular Trap Formation and Exacerbates Acute Lung Injury in Neonatal Sepsis (/2227-9059/14/5/1145)

by Huiling Zhang, Wei Huang, Xinlong Dai, Jundi Zheng, Xinyao Jiang, Yutao Yang, Hanhui Zhong and Guang Yang

Biomedicines **2026**, *14*(5), 1145; <https://doi.org/10.3390/biomedicines14051145> (<https://doi.org/10.3390/biomedicines14051145>) - 18 May 2026

Viewed by 475

Abstract Background: Acute lung injury (ALI) is a major contributor to mortality in neonatal sepsis, yet the mechanisms underlying early lung damage remain incompletely understood. Although extracellular traps (ETs) have been implicated in inflammatory injury, the cellular origin and regulatory pathways of ET [...] [Read more.](#)

(This article belongs to the Special Issue [Sepsis and Systemic Inflammation: Mechanisms and Therapeutic Innovations \(/journal/biomedicines/special_issues/9QAR29H328\)](#))

► [Show Figures](#)

https://pub.mdpi-res.com/biomedicines/biomedicines-14-01145/article_deploy/html/images/biomedicines-14-01145-g001-550.jpg?1779357054 (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01145/article_deploy/html/images/biomedicines-14-01145-g002-550.jpg?1779357054)

1779357058) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01145/article_deploy/html/images/biomedicines-14-01145-g003-550.jpg?1779357060) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01145/article_deploy/html/images/biomedicines-14-01145-g004-550.jpg?1779357062) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01145/article_deploy/html/images/biomedicines-14-01145-g005-550.jpg?1779357064) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01145/article_deploy/html/images/biomedicines-14-01145-g006-550.jpg?1779357067)

Open Access Review

13 pages, 961 KB

(/2227-9059/14/5/1144/pdf?version=1779693484)

Spinal Cord Ischemia Following Thoracoabdominal Aortic Aneurysm Repair: Translational Insights from Stroke and Traumatic Injury for Biomarker Development (/2227-9059/14/5/1144)

by James A. Kelly, Miranda Witheford, Kong Teng Tan, Tiam Feridooni, Daniyal Mahmood, Carmen Garcia-Mere and Thomas F. Lindsay

Biomedicines **2026**, *14*(5), 1144; <https://doi.org/10.3390/biomedicines14051144> (<https://doi.org/10.3390/biomedicines14051144>) - 18 May 2026

Viewed by 399

Abstract Background: Spinal cord ischemia (SCI) is a severe complication of thoracoabdominal aortic aneurysm (TAAA) repair, associated with substantial morbidity and mortality. Despite advances in operative techniques, its pathophysiology remains incompletely understood, with no reliable biomarkers available for early detection or risk stratification. **Methods:** [...] **Read more.**

(This article belongs to the Special Issue **Aortic Aneurysm: Mechanisms, Biomarkers, and Therapeutic Strategy (/journal/biomedicines/special_issues/I8Q6I15BW5)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01144/article_deploy/html/images/biomedicines-14-01144-ag-550.jpg?1779709735) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01144/article_deploy/html/images/biomedicines-14-01144-g001-550.jpg?1779693564) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01144/article_deploy/html/images/biomedicines-14-01144-g002-550.jpg?1779693567)

Open Access Viewpoint

8 pages, 195 KB

(/2227-9059/14/5/1143/pdf?version=1779430753)

Autoimmune Disorders and Thrombophilia in Pathologic Pregnancies: Management Throughout the Full Gestation (/2227-9059/14/5/1143)

by Rui Gao and Lang Qin

Biomedicines **2026**, *14*(5), 1143; <https://doi.org/10.3390/biomedicines14051143> (<https://doi.org/10.3390/biomedicines14051143>) - 18 May 2026

Viewed by 306

Abstract Pathologic pregnancies including recurrent pregnancy loss, stillbirth, early-onset pre-eclampsia and early-onset fetal growth restriction form a continuous spectrum throughout gestation and have attracted wide attention. Autoimmune disorders and associated acquired thrombophilia are key

etiological factors. However, because of the complicated associations between various [...] [Read more.](#)
(This article belongs to the Special Issue [Immunology in Recurrent Pregnancy Loss, Preeclampsia and Infertility \(/journal/biomedicines/special_issues/JFQ1D0ETI4 \)](#))

Open Access Review

26 pages, 1636 KB

 (/toggle_desktop_layout_cookie)  
(/2227-9059/14/5/1142/pdf?version=1779112839)

Gene Therapy for Cardiovascular and Cerebrovascular Disease: Mechanisms, Translational Barriers, and the Road Ahead (/2227-9059/14/5/1142)

by Zixu Liu, Ruiqi Liu, Ying Ying and Jing Nie

Biomedicines **2026**, *14*(5), 1142; <https://doi.org/10.3390/biomedicines14051142> (<https://doi.org/10.3390/biomedicines14051142>) - 18 May 2026

Viewed by 668

Abstract Cardiovascular and cerebrovascular diseases, encompassing cardiac arrhythmias, atherosclerosis, and ischaemic stroke, remain the foremost causes of death and long-term disability globally. Despite improved outcomes with conventional therapy, substantial residual risk persists, providing the impetus for gene-based intervention. KCNQ1/KCNH2 suppression-and-replacement, SCN5A base editing, and [...] [Read more.](#)

(This article belongs to the Special Issue [Cardiovascular and Metabolic Disease: New Treatment and Future Directions—4th Edition \(/journal/biomedicines/special_issues/74I0IT7B37 \)](#))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01142/article_deploy/html/images/biomedicines-14-01142-g001-550.jpg?1779112972) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01142/article_deploy/html/images/biomedicines-14-01142-g002-550.jpg?1779112974) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01142/article_deploy/html/images/biomedicines-14-01142-g003-550.jpg?1779112976)

Open Access Article

13 pages, 1330 KB

(/2227-9059/14/5/1141/pdf?version=1779109207) 

Immunological Insights into Peritoneal Carcinomatosis for Gastrointestinal Malignancies: The Role of Soluble Factors in Malignant Ascites (/2227-9059/14/5/1141)

by Ufuk Oguz Idiz, Ilhan Mutlu, Yucel Barut, Eyup Kaya, Aysegul Ferlenguez, Ihsan Gunduz, Taskin Rakici, Erdem Kinaci, Mahmut Emin Cicek, Anil Demir, Musa Murat Caliskan, Murat Altinkaynak, Erol Aydin, Mert Ali Dolek, Selim Dogan, Yurdakul Deniz Firat and Mert Mahsuni Sevinc

Biomedicines **2026**, *14*(5), 1141; <https://doi.org/10.3390/biomedicines14051141> (<https://doi.org/10.3390/biomedicines14051141>) - 18 May 2026

Viewed by 471

Abstract Background and Objectives: Malignant ascites reflects the tumor microenvironment and provides valuable insights into peritoneal metastasis. This study aimed to assess soluble immune system-related molecules in the ascites fluid of advanced gastrointestinal cancer patients with peritoneal carcinomatosis and to explore potential therapeutic opportunities. [...] [Read more.](#)

(This article belongs to the Special Issue [Cellular and Molecular Mechanisms in Gastrointestinal Tract Disease: 2nd Edition \(/journal/biomedicines/special_issues/173W6Q8U74 \)](#))

► [Show Figures](#)

MDPI (l)
(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01141/article_deploy/html/images/biomedicines-14-01141-g001-550.jpg?1779109287) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01141/article_deploy/html/images/biomedicines-14-01141-g002-550.jpg?1779109292)
(toggle desktop layout cookie) 🔍 ☰

Open Access Article 17 pages, 3653 KB (</2227-9059/14/5/1140/pdf?version=1779097327>) 🔗

Intracellular Vesicle Transport Impairment as a Candidate Systems-Level Bottleneck in Chronic Diabetic Foot Ulcers: Network Medicine Identifies KIF13A as a Potential Therapeutic Vulnerability (</2227-9059/14/5/1140>)

by **Haitao Ren** and **Yongan Xu**

Biomedicines **2026**, *14*(5), 1140; <https://doi.org/10.3390/biomedicines14051140> (<https://doi.org/10.3390/biomedicines14051140>) - 18 May 2026

Viewed by 555

Abstract Background: Growth factor therapy often fails in diabetic foot ulcers (DFUs). The reason remains unclear. Standard differential expression analysis may miss functionally critical genes with modest expression changes. **Methods:** We performed a secondary computational analysis of a longitudinal DFU transcriptomic dataset [...] **Read more.**

(This article belongs to the Special Issue **Diabetes: Comorbidities, Therapeutics and Insights (3rd Edition)**) (/journal/biomedicines/special_issues/7E1K28AMP8))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01140/article_deploy/html/images/biomedicines-14-01140-g001-550.jpg?1779097445) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01140/article_deploy/html/images/biomedicines-14-01140-g002-550.jpg?1779097447) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01140/article_deploy/html/images/biomedicines-14-01140-g003-550.jpg?1779097448) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01140/article_deploy/html/images/biomedicines-14-01140-g004-550.jpg?1779097450) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01140/article_deploy/html/images/biomedicines-14-01140-g005-550.jpg?1779097452) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01140/article_deploy/html/images/biomedicines-14-01140-g006-550.jpg?1779097454) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01140/article_deploy/html/images/biomedicines-14-01140-g007-550.jpg?1779097455) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01140/article_deploy/html/images/biomedicines-14-01140-g008-550.jpg?1779097457)

Open Access Article 19 pages, 3367 KB (</2227-9059/14/5/1139/pdf?version=1779098438>) 🔗

Dissecting GPCR Contributions to Gao-Dependent Motor Dysfunction in GNAO1-Related Disorders Using *Caenorhabditis elegans* (</2227-9059/14/5/1139>)

by **Martina Di Rocco, Lorenzo Di Rienzo, Francesca Carmen Follo, Manuela D'Alessandro, Serena Galosi, Luca Pannone, Serenella Venanzi, Elia Di Schiavi, Alberto Martire, Jean-Louis Bessereau, Vincenzo Leuzzi, Edoardo Milanetti and Simone Martinelli**

Biomedicines **2026**, *14*(5), 1139; <https://doi.org/10.3390/biomedicines14051139> (https://doi.org/10.3390/biomedicines14051139) - 18 May 2026

Viewed by 819

Abstract Background/Objectives: Pathogenic variants in *GNAO1*, encoding the inhibitory G protein subunit G α o, cause severe neurodevelopmental disorders that remain largely refractory to pharmacological treatments. G α o transduces inhibitory signals downstream of multiple G protein-coupled receptors (GPCRs) involved in motor control. Here, we used [...] **Read more.**

(This article belongs to the Special Issue **Innovative Approaches in Drug Discovery** (/journal/biomedicines/special_issues/9709QECA39))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01139/article_deploy/html/images/biomedicines-14-01139-ag-550.jpg?1779326112) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01139/article_deploy/html/images/biomedicines-14-01139-g001-550.jpg?1779326098) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01139/article_deploy/html/images/biomedicines-14-01139-g002-550.jpg?1779326100) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01139/article_deploy/html/images/biomedicines-14-01139-g003-550.jpg?1779326102) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01139/article_deploy/html/images/biomedicines-14-01139-g004-550.jpg?1779326106) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01139/article_deploy/html/images/biomedicines-14-01139-g005-550.jpg?1779326109) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01139/article_deploy/html/images/biomedicines-14-01139-g006-550.jpg?1779326110)

Open Access Review

18 pages, 1044 KB

(</2227-9059/14/5/1138/pdf?version=1779088695>)

Mental Disorders as Risk Factors for New Onset Cardiovascular Diseases (</2227-9059/14/5/1138>)

by **Agata Anna Sakowicz-Hriscu, Oliwia Grunwald, Paweł Muszyński, Marcin Kożuch and Sławomir Dobrzycki**

Biomedicines **2026**, *14*(5), 1138; <https://doi.org/10.3390/biomedicines14051138> (<https://doi.org/10.3390/biomedicines14051138>) - 18 May 2026

Viewed by 582

Abstract Introduction: Cardiovascular diseases (CVDs) are a vast and widespread problem around the world, responsible for around one third of global deaths, of which 85% were due to heart attack and stroke in 2022. There are a lot of well-established risk factors for CVDs, [...] **Read more.**

(This article belongs to the Section **Neurobiology and Clinical Neuroscience** (</journal/biomedicines/sections/neuro>))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01138/article_deploy/html/images/

Open Access Review

31 pages, 958 KB

[\(/2227-9059/14/5/1137/pdf?version=1779087643\)](#)

Advancements in Nanodrug Delivery Systems as Controlled-Release Systems for Glaucoma Therapy: An Inspirational Step Toward Translation from Research to Clinic ([/2227-9059/14/5/1137](#))

by **Tanin Hosseinkhani, Ahmad Karami, Shahla Mirzaeei and Ali Nokhodchi**

Biomedicines **2026**, *14*(5), 1137; <https://doi.org/10.3390/biomedicines14051137> (<https://doi.org/10.3390/biomedicines14051137>) - 18 May 2026

Viewed by 513

Abstract Glaucoma is a collection of disorders that result in permanent vision loss and is characterized by a gradual decline in retinal ganglion cells. While it may not always be high, intraocular pressure (IOP) is the sole risk factor that can be modified according [...] [Read more.](#)

(This article belongs to the Collection **Feature Papers in Drug Discovery and Development** ([/journal/biomedicines/topical_collections/drug_discovery_topic_collection](#)))

► Show Figures

https://pub.mdpi-res.com/biomedicines/biomedicines-14-01137/article_deploy/html/images/biomedicines-14-01137-g001-550.jpg?1779087726) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01137/article_deploy/html/images/biomedicines-14-01137-g002-550.jpg?1779087729)

Open Access Article

14 pages, 1112 KB

[\(/2227-9059/14/5/1136/pdf?version=1779359516\)](#) 

Transitioning to Omnipod 5®: Effectiveness, Safety, and Patient-Reported Outcomes of a Tubeless Automated Insulin Delivery System in Adults with Type 1 Diabetes Mellitus ([/2227-9059/14/5/1136](#))

by **Carmelo Gusmano, Rossella Cannarella, Concetta Finocchiaro, Gianfranco Gruttadauria, Rosario Randazzo, Rosita A. Condorelli, Sandro La Vignera, Aldo E. Calogero and Giuseppe Papa**

Biomedicines **2026**, *14*(5), 1136; <https://doi.org/10.3390/biomedicines14051136> (<https://doi.org/10.3390/biomedicines14051136>) - 17 May 2026

Viewed by 514

Abstract Background and Aims: Automated insulin delivery (AID) systems are standard of care for type 1 diabetes mellitus (T1DM). Tubeless AID systems may improve treatment acceptance, but real-world European data in patients transitioning from multiple daily injections (MDI) or open-loop patch pump therapy are [...] [Read more.](#)

(This article belongs to the Section **Endocrinology and Metabolism Research** ([/journal/biomedicines/sections/endocrinology_metabolism](#)))

► Show Figures

https://pub.mdpi-res.com/biomedicines/biomedicines-14-01136/article_deploy/html/images/biomedicines-14-01136-g001-550.jpg?1779359592) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01136/article_deploy/html/images/biomedicines-14-01136-g002-550.jpg?1779359592)

 [biomedicines-14-01136/article_deploy/html/images/biomedicines-14-01136-g002-550.jpg?1779359594](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01136/article_deploy/html/images/biomedicines-14-01136-g002-550.jpg?1779359594) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01136/article_deploy/html/images/biomedicines-14-01136-g003-550.jpg?1779359597) [\(toggle desktop layout cookie\)](#)  

Open Access Article 10 pages, 215 KB [./2227-9059/14/5/1135/pdf?version=1779009041](https://doi.org/10.3390/biomedicines14051135) 

Long-Term Comparative Outcomes of TNF- α Antagonists vs. Vedolizumab as First-Line Biologic Therapy for Refractory Ulcerative Proctitis: A Propensity-Matched Study [./2227-9059/14/5/1135](https://doi.org/10.3390/biomedicines14051135))

by Ayushi Shah, Azhar Hussain, Ahmad Nawaz, Abdelkader Chaar, Avleen Kaur, Mark M. Aloysius, Bishnu Sapkota, Savio John and Idan Goren

Biomedicines **2026**, *14*(5), 1135; <https://doi.org/10.3390/biomedicines14051135> (<https://doi.org/10.3390/biomedicines14051135>) - 17 May 2026

Viewed by 541 

Abstract Background: The optimal first-line biologic therapy for refractory ulcerative proctitis (UP) remains uncertain, largely because patients with UP are frequently excluded from biologic clinical trials, limiting evidence to guide treatment selection. This study evaluated outcomes among patients with UP treated with first-line [...] **Read more.**

(This article belongs to the Special Issue **Advances in Pathogenesis and Therapeutics of Gastrointestinal Diseases** ([/journal/biomedicines/special_issues/18ARENUU9J](https://doi.org/10.3390/biomedicines/special_issues/18ARENUU9J)))

 **Show Figures**

https://pub.mdpi-res.com/biomedicines/biomedicines-14-01135/article_deploy/html/images/biomedicines-14-01135-ag-550.jpg?1779783561)

Open Access Article 41 pages, 47516 KB [./2227-9059/14/5/1134/pdf?version=1779442136](https://doi.org/10.3390/biomedicines14051134) 

Clinicopathological Characteristics and Prediction of Overall Survival and Death Within 2 Years in Diffuse Large B-Cell Lymphoma Based on Histological Images and Deep Learning [./2227-9059/14/5/1134](https://doi.org/10.3390/biomedicines14051134))

by Joaquim Carreras

Biomedicines **2026**, *14*(5), 1134; <https://doi.org/10.3390/biomedicines14051134> (<https://doi.org/10.3390/biomedicines14051134>) - 17 May 2026

Viewed by 500

Abstract Background: Diffuse large B-cell lymphoma (DLBCL) is one of the most frequent lymphomas. To date, it is not possible to identify which DLBCL patients will have an aggressive clinical evolution only by using hematoxylin and eosin (H&E) histological images. **Methods:** This [...] **Read more.**

(This article belongs to the Topic **The Tumor Microenvironment, Immuno-Oncology, and Immune Checkpoint: Implications for Current and Emergent Immunotherapies, 2nd Edition** ([/topics/80LL2AQZ05](https://doi.org/10.3390/biomedicines/special_issues/80LL2AQZ05)))

 **Show Figures**

https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134-g001-550.jpg?1779442332) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134-g002-550.jpg?1779442332)

[biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134-Q](#)  

a004-550.jpg?1779442339) (<https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/>

[article_deploy/html/images/biomedicines-14-01134-g005-550.jpg?1779442340](https://www.mdpi.com/article_deploy/html/images/biomedicines-14-01134-g005-550.jpg?1779442340)) (<https://pub.mdpi->

res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134

g006-550.jpg?1779442342) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/

[article_deploy/html/images/biomedicines-14-01134-g007-550.jpg?1779442346](https://pub.mdpi.com/article_deploy/html/images/biomedicines-14-01134-g007-550.jpg?1779442346) ([https://pub.mdpi-](https://pub.mdpi.com/article_deploy/html/images/biomedicines-14-01134-g007-550.jpg?1779442346)

res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134

[g008-550.jpg?1779442347](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/g008-550.jpg?1779442347)) (<https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6911349/g009-550.jpg?1779442349> (https://pub.indpi-

https://biomedicines.com/biomedicines-14-01154/article_deploy/html/images/biomedicines-14-01154

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1111111/>

[illegible]

1013-550 (ncj24770442350) (<https://pub.mdpi-res.com/biomedicine/biomedicine-14-01134/>)

article_deploy/html/images/biomedicines-14-01134-g013-550.jpg?1779442363) (https://pub.mdpi.com/responsive/image.html?wrap=true&asset_id=1779442363&file_type=image)

res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134

a014-550.jpg?1779442367) (<https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/>

[article_deploy/html/images/biomedicines-14-01134-g015-550.jpg?1779442368](https://www.mdpi.com/article_deploy/html/images/biomedicines-14-01134-g015-550.jpg?1779442368)) (<https://pub.mdpi->

[res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134](https://www.researchprotocols.org/2024/1/e11134/article_deploy/html/images/biomedicines-14-01134)

g016-550.jpg?1779442370)_(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/

[article_deploy/html/images/biomedicines-14-01134-g017-550.jpg?1779442372](https://www.mdpi.com/article_deploy/html/images/biomedicines-14-01134-g017-550.jpg?1779442372)) (<https://pub.mdpi->

res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134

[g018-550.jpg?1779442375](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/g018-550.jpg?1779442375)) (<https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/>

[article_deploy/html/images/biomedicines-14-011349-g019-550.jpg?1779442376](https://www.biorxiv.org/content/10.1101/2020.05.14.011349v1/1349550.jpg?1779442376) (<https://pub.indpi->

<https://www.researchgate.net/publication/353011047>

[illegible]

www.biomedcentral.com/biomedicine/14/24124/article-abstract# "1" "www.biomedicine/14/24124

10323550,inc21770442384) (<https://pub.mdpi-res.com/biomedicines/biomedicines-11-01124/>

article_deploy/html/images/biomedicines-14-01134-g023-550.jpg?21779412386) (https://pub.mdpi.com/resolving/article_deploy/html/images/biomedicines-14-01134-g023-550.jpg?21779412386)

[res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134](https://www.biomedcentral.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134)

g0A1-550.jpg?1779442388) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134-g0A1-550.jpg?1779442390) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134-g0A2-550.jpg?1779442393) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134-g0A3-550.jpg?1779442397) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134-g0A4-550.jpg?1779442400) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134-g0A5-550.jpg?1779442403) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134-g0A6-550.jpg?1779442408) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01134/article_deploy/html/images/biomedicines-14-01134-g0A7-550.jpg?1779442410)

Open Access Review

25 pages, 1203 KB

(/2227-9059/14/5/1133/pdf?version=1779350008)

Recent Advances in the Diagnosis and Management of Clinically Significant Portal Hypertension in Liver Cirrhosis: A Clinical Review (/2227-9059/14/5/1133)

by Jan Christoph Schumacher, Joshua Leutiger, Anna Martin, Münevver Demir, Christoph Neumann-Haefelin and Philipp Kasper

Biomedicines **2026**, *14*(5), 1133; <https://doi.org/10.3390/biomedicines14051133> (<https://doi.org/10.3390/biomedicines14051133>) - 16 May 2026

Viewed by 667

Abstract Clinically significant portal hypertension (CSPH) is a key driver of decompensation events and complications in patients with liver cirrhosis. The manifestation of hepatic decompensation is, in turn, associated with a drastic deterioration in prognosis in this vulnerable population. Therefore, a timely identification of [...] **Read more.**

(This article belongs to the Special Issue **Chronic Liver Disease: From Mechanisms to Therapeutic Approaches (/journal/biomedicines/special_issues/727V76H9NU)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01133/article_deploy/html/images/biomedicines-14-01133-g001-550.jpg?1779350094) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01133/article_deploy/html/images/biomedicines-14-01133-g002-550.jpg?1779350096)

Open Access Review

43 pages, 1883 KB

(/2227-9059/14/5/1132/pdf?version=1778928180)

Modern Perspectives on the Mechanisms and Non-Genetic Factors in Ménière's Disease—A Narrative Review (/2227-9059/14/5/1132)

by Iustin Mihai Iațentiuc, Otilia Elena Frăsinariu, Andreea Iațentiuc, Lucia Corina Dima-Cozma, Raluca Olariu, Elena Tătaranu, Alexandru Florescu, Andreea Moaleș, Andrei Osman, Mihaela Durnea, Ionuț Daniel Iancu, Sebastian Romică Cozma and Oana Roxana Bitere-Popa
Biomedicines **2026**, *14*(5), 1132; <https://doi.org/10.3390/biomedicines14051132> (<https://doi.org/10.3390/biomedicines14051132>)

Abstract Ménière's disease is a complex disorder of the inner ear, characterized by recurrent episodes of vertigo, progressive hearing loss, tinnitus, and aural fullness. The pathophysiology of this condition is dominated by endolymphatic hydrops, reflecting imbalances in fluid regulation and pressure within the membranous [...]. **Read more.**

(This article belongs to the Special Issue **Hereditary Diseases: Insights from Genetic Perspectives** ([/journal/biomedicines/special_issues/E21S5WV458](#)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01132/article_deploy/html/images/biomedicines-14-01132-g001-550.jpg?1778928255) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01132/article_deploy/html/images/biomedicines-14-01132-g002-550.jpg?1778928258) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01132/article_deploy/html/images/biomedicines-14-01132-g003-550.jpg?1778928260) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01132/article_deploy/html/images/biomedicines-14-01132-g004-550.jpg?1778928262)

Open Access Article

15 pages, 851 KB

([/2227-9059/14/5/1131/pdf?version=1779788314](#))

Elevated B12/CRP Index as a Simple Prognostic Indicator in Patients with Metastatic Renal Cell Carcinoma Treated with First-Line Targeted Therapy ([/2227-9059/14/5/1131](#))

by Oktay Halit Aktepe, Tugce Ulasli, Osman Butun and Suayib Yalcin

Biomedicines **2026**, *14*(5), 1131; <https://doi.org/10.3390/biomedicines14051131> (<https://doi.org/10.3390/biomedicines14051131>) - 16 May 2026

Viewed by 496

Abstract Background/Objectives: The vitamin B12 (VB12)/C-reactive protein (CRP) index (BCI), a clinically derived index calculated as serum VB12 multiplied by CRP, has shown prognostic value in several cancers. However, its association with survival outcomes in metastatic renal cell carcinoma (mRCC) remains unclear. Therefore, the [...]. **Read more.**

(This article belongs to the Section **Cancer Biology and Oncology** ([/journal/biomedicines/sections/cancer](#)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01131/article_deploy/html/images/biomedicines-14-01131-g001-550.jpg?1779788414) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01131/article_deploy/html/images/biomedicines-14-01131-g002-550.jpg?1779788416) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01131/article_deploy/html/images/biomedicines-14-01131-g003-550.jpg?1779788417)

Open Access Review

25 pages, 460 KB

([/2227-9059/14/5/1130/pdf?version=1778920688](#))

From Stress to Neurodegeneration: A New Look at the Pathogenesis of Parkinson's Disease

(/2227-9059/14/5/1130)

by **MDPI** ⁽¹⁾
by **Rogneda B. Kazanskaya, Vassiliy Tsytarev, Anna B. Volnova, Raul R. Gainetdinov and Alexander V. Lopachev**

Biomedicines **2026**, *14*(5), 1130; <https://doi.org/10.3390/biomedicines14051130> (<https://doi.org/10.3390/biomedicines14051130>) - 16 May 2026

Viewed by 600

Abstract The relationship between stress and Parkinson's disease is regarded as complex and multifaceted, although a direct causal link has not yet been conclusively proven. One prevailing hypothesis is based on the activation of the hypothalamic–pituitary–adrenal (HPA) axis and the consequent elevation of glucocorticoid [...][Read more.](#)

(This article belongs to the Special Issue **Advances in Parkinson's Disease Research** (/journal/biomedicines/special_issues/54AW7Y7VG6))

[► Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01130/article_deploy/html/images/biomedicines-14-01130-ag-550.jpg?1778920767)

Open Access Perspective 18 pages, 1593 KB [\(/2227-9059/14/5/1129/pdf?version=1778919662\)](/2227-9059/14/5/1129/pdf?version=1778919662)

Toward Precision Health in Autoimmunity and Immune-Related Adverse Events: The Autoantibody Reactome, Spatial Omics, and Multimodal Data Integration (</2227-9059/14/5/1129>)

by **Allan Stensballe**

Biomedicines **2026**, *14*(5), 1129; <https://doi.org/10.3390/biomedicines14051129> (<https://doi.org/10.3390/biomedicines14051129>) - 16 May 2026

Viewed by 424

Abstract The autoantibody reactome refers to the multidimensional repertoire of antibody reactivities against self-antigens across the human proteome or selected antigenic compartments. This offers a scalable systemic layer for precision immunology across spontaneous autoimmunity and treatment-induced immune toxicity. Autoimmune diseases and immune-related adverse events [...][Read more.](#)

(This article belongs to the Topic **Multi-Omics in Precision Medicine** (</topics/Z6ZWJQ7U1I>))

[► Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01129/article_deploy/html/images/biomedicines-14-01129-g001-550.jpg?1778919847) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01129/article_deploy/html/images/biomedicines-14-01129-g002-550.jpg?1778919850)

Open Access Article 20 pages, 13005 KB [\(/2227-9059/14/5/1128/pdf?version=1778919567\)](/2227-9059/14/5/1128/pdf?version=1778919567) 

RAGE in Neutrophils: A Sensor for Pathogen-Associated Structures and Beyond (</2227-9059/14/5/1128>)

by **Ekaterina A. Golenkina, Sofia V. Navarnova, Galina M. Viryasova, Svetlana I. Galkina, Tatjana V. Gaponova, Yulia M. Romanova and Galina F. Sud'ina**

Biomedicines **2026**, *14*(5), 1128; <https://doi.org/10.3390/biomedicines14051128> (<https://doi.org/10.3390/biomedicines14051128>) - 16 May 2026

Viewed by 512

MDPI (1)

Abstract Background/Objectives: Neutrophils express the receptor for advanced glycation end products (RAGE), yet its role in antibacterial responses remains incompletely defined. This study aims to elucidate the dual functionality of RAGE as a membrane-bound signaling sensor and a source of soluble RAGE (sRAGE) [...][Read more](#).

(This article belongs to the Collection [Feature Papers in Immunology and Immunotherapy](#) ([/journal/biomedicines/topical_collections/feature_paper_immunol](#)))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01128/article_deploy/html/images/biomedicines-14-01128-g001-550.jpg?1778919644) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01128/article_deploy/html/images/biomedicines-14-01128-g002-550.jpg?1778919645) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01128/article_deploy/html/images/biomedicines-14-01128-g003-550.jpg?1778919646) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01128/article_deploy/html/images/biomedicines-14-01128-g004-550.jpg?1778919646) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01128/article_deploy/html/images/biomedicines-14-01128-g005-550.jpg?1778919647) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01128/article_deploy/html/images/biomedicines-14-01128-g006-550.jpg?1778919651) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01128/article_deploy/html/images/biomedicines-14-01128-g007-550.jpg?1778919652) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01128/article_deploy/html/images/biomedicines-14-01128-sch001-550.jpg?1778919653)

Open Access Communication 11 pages, 8483 KB ([/2227-9059/14/5/1127/pdf?version=1778911886](#))

Phosphorylated Alpha-Synuclein and Carboxymethyllysine in the Epidermis of Type 2 Diabetes Patients: Preliminary Observations ([/2227-9059/14/5/1127](#))

by **Bernard Kordas, Wojciech Matuszewski, Robert Modzelewski and Judyta Juranek**
Biomedicines **2026**, *14*(5), 1127; <https://doi.org/10.3390/biomedicines14051127> (<https://doi.org/10.3390/biomedicines14051127>) - 16 May 2026

Viewed by 423

Abstract Background/objectives: Alpha-synuclein (aSyn) is best known for its role in Parkinson's disease. Increasing evidence suggests a bidirectional relationship between diabetes mellitus and synuclein pathology. Carboxymethyllysine (CML), an advanced glycation end-product, serves as a marker of cumulative glycation stress and tissue damage in [...][Read more](#).

(This article belongs to the Special Issue [Molecular and Histopathological Background of Diabetic Neuropathy](#) ([/journal/biomedicines/special_issues/E5WU051U01](#)))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01127/article_deploy/html/images/biomedicines-14-01127-ag-550.jpg?1779261951) (<https://pub.mdpi-res.com/biomedicines/>

 [biomedicines-14-01127/article_deploy/html/images/biomedicines-14-01127-g001-550.jpg?1778911986](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01127/article_deploy/html/images/biomedicines-14-01127-g001-550.jpg?1778911986)) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01127/article_deploy/html/images/biomedicines-14-01127-g002-550.jpg?1778911991) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01127/article_deploy/html/images/biomedicines-14-01127-g003-550.jpg?1778911993)

Open Access Review 19 pages, 1444 KB [\(/2227-9059/14/5/1126/pdf?version=1778902665\)](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01126/pdf?version=1778902665)

Current Studies on the Hypoxic Tumor Microenvironment in Thyroid Cancer: From Molecular Mechanisms to Clinical Therapeutic Perspectives (/2227-9059/14/5/1126)

by Xuejiao Peng, Li Ma and Weiqin Chang

Biomedicines **2026**, *14*(5), 1126; <https://doi.org/10.3390/biomedicines14051126> (<https://doi.org/10.3390/biomedicines14051126>) - 16 May 2026

Viewed by 694

Abstract Hypoxia is a hallmark feature of solid tumors and is increasingly recognized as an important factor in tumor progression, aggressiveness, and therapeutic resistance. In the tumor microenvironment, hypoxia is associated with genetic instability, abnormal angiogenesis, metabolic reprogramming, and crosstalk with oncogenic signaling pathways, [...] **Read more.**

(This article belongs to the Special Issue **Advanced Research in Thyroid and Parathyroid Diseases (/journal/biomedicines/special_issues/22EQS189V0)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01126/article_deploy/html/images/biomedicines-14-01126-g001-550.jpg?1778902774)

Open Access Article 11 pages, 11299 KB [\(/2227-9059/14/5/1125/pdf?version=1779353367\)](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01125/pdf?version=1779353367)

Aquaporin-4 and MicroRNA Expression in Meningiomas: A Tissue-Level Exploratory Analysis (/2227-9059/14/5/1125)

by Huseyin Omer Keskin, Emre Ozkara, Ebru Erzurumluoglu, Zuhtu Ozbek, Evrim Yilmaz, Funda Canaz, Didem Arslantas, Sevilhan Artan and Ali Arslantas

Biomedicines **2026**, *14*(5), 1125; <https://doi.org/10.3390/biomedicines14051125> (<https://doi.org/10.3390/biomedicines14051125>) - 15 May 2026

Viewed by 365

Abstract Background: Meningiomas exhibit considerable biological heterogeneity that is not fully captured by histopathological grading. Tissue-based molecular markers may provide complementary insight into tumor biology within routine diagnostic settings. **Methods:** Formalin-fixed paraffin-embedded tissue samples from 65 intracranial meningiomas and 13 non-neoplastic controls were analyzed. [...] **Read more.**

(This article belongs to the Section **Cell Biology and Pathology (/journal/biomedicines/sections/cell_pathology)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01125/article_deploy/html/images/

 [biomedicines-14-01125-ag-550.jpg?1779353443](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01125-ag-550.jpg?1779353443)) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01125/article_deploy/html/images/biomedicines-14-01125-g001-550.jpg?1779353441) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01125/article_deploy/html/images/biomedicines-14-01125-g002-550.jpg?1779353441) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01125/article_deploy/html/images/biomedicines-14-01125-g003-550.jpg?1779353442) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01125/article_deploy/html/images/biomedicines-14-01125-g004-550.jpg?1779353442)

Open Access Article 18 pages, 2826 KB [\(/2227-9059/14/5/1124/pdf?version=1779271700\)](https://doi.org/10.3390/biomedicines14051124/pdf?version=1779271700) 

Resolvin D1 in the Lipopolysaccharide-Induced Inflammatory Microenvironment Mediates Resolution in Human Monocytic THP-1 Cells (/2227-9059/14/5/1124)

by Zhe Xing, Qian Zhao, Xiaoli He, Jiazheng Cai, Yaxin Xue, Christopher Graham Fenton, Alpdogan Kantarci, Kristin Andreassen Fenton, Xiaoli An and Ying Xue

Biomedicines **2026**, *14*(5), 1124; <https://doi.org/10.3390/biomedicines14051124> (<https://doi.org/10.3390/biomedicines14051124>) - 15 May 2026

Viewed by 355

Abstract Objectives: An infectious trigger can initiate a systemic inflammatory response, which in turn activates immune cells and causes the release of various mediators. Local mediators, such as resolvin D1 (RvD1), actively interact with immune cells to promote the resolution of inflammation. This [...] **Read more.**

(This article belongs to the Special Issue **Inflammatory Mechanisms, Biomarkers and Treatment in Oral Diseases (/journal/biomedicines/special_issues/926055GR1Z)**)

► Show Figures

https://pub.mdpi-res.com/biomedicines/biomedicines-14-01124/article_deploy/html/images/biomedicines-14-01124-g001-550.jpg?1779271773) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01124/article_deploy/html/images/biomedicines-14-01124-g002-550.jpg?1779271774) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01124/article_deploy/html/images/biomedicines-14-01124-g003-550.jpg?1779271778) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01124/article_deploy/html/images/biomedicines-14-01124-g004-550.jpg?1779271782) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01124/article_deploy/html/images/biomedicines-14-01124-g005-550.jpg?1779271784) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01124/article_deploy/html/images/biomedicines-14-01124-g006-550.jpg?1779271787)

Open Access Article 20 pages, 4393 KB [\(/2227-9059/14/5/1123/pdf?version=1779789222\)](https://doi.org/10.3390/biomedicines14051123/pdf?version=1779789222) 

Exploring Biomarkers and Mechanisms of Action of Adaptive Immune Response in Age-Related Macular Degeneration Based on Transcriptomics (/2227-9059/14/5/1123)

by Caijian Xiong, Siqi Zhou, Yingxue Hu and Xinrong Xu

Biomedicines 2026, 14(5), 1123; <https://doi.org/10.3390/biomedicines14051123> (<https://doi.org/10.3390/biomedicines14051123>) - 15 May 2026

Viewed by 498

Abstract Background: Age-related macular degeneration (AMD) is a common retinal degenerative disease linked to adaptive immune response dysregulation. This study aimed to identify shared immune-related biomarkers and explore their underlying mechanisms. **Methods:** GSE29801 and GSE135092 served as training and validation sets. Adaptive immune response-related [...] **Read more.** (This article belongs to the Section **Gene and Cell Therapy** (</journal/biomedicines/sections/genetherapy>))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01123/article_deploy/html/images/biomedicines-14-01123-ag-550.jpg?1779789363) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01123/article_deploy/html/images/biomedicines-14-01123-g001-550.jpg?1779789351) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01123/article_deploy/html/images/biomedicines-14-01123-g002-550.jpg?1779789353) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01123/article_deploy/html/images/biomedicines-14-01123-g003-550.jpg?1779789358) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01123/article_deploy/html/images/biomedicines-14-01123-g004-550.jpg?1779789360) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01123/article_deploy/html/images/biomedicines-14-01123-g005-550.jpg?1779789363)

Open Access Article 11 pages, 2477 KB (</2227-9059/14/5/1122/pdf?version=1779706850>)

Lack of Anterior Communicating Artery Is Associated with Symptomatic Middle Cerebral Artery Atherosclerosis (</2227-9059/14/5/1122>)

by Jia Li, Wenjie Yang, Lu Zheng, Xuelong Li, Winnie Chiuwing Chu, Thomas Waihong Leung and Xiangyan Chen

Biomedicines 2026, 14(5), 1122; <https://doi.org/10.3390/biomedicines14051122> (<https://doi.org/10.3390/biomedicines14051122>) - 15 May 2026

Viewed by 504

Abstract Background: Dysplasia or absence of anterior communicating artery (ACoA) is a common variation in the circle of Willis (COW) anomaly, and it may elevate the risks of cerebrovascular diseases. We aimed at investigating the association of ACoA dysplasia/absence with plaque imaging features [...] **Read more.**

(This article belongs to the Special Issue **Technological Innovations Transforming Cerebrovascular Disease Management** (/journal/biomedicines/special_issues/2QV1R5R32P))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01122/article_deploy/html/images/biomedicines-14-01122-g001-550.jpg?1779706963) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01122/article_deploy/html/images/biomedicines-14-01122-g002-550.jpg?1779706963)

1779706967) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01122/article_deploy/html/images/biomedicines-14-01122-g003-550.jpg?1779706975)

Open Access Review

20 pages, 623 KB

 (/toggle_desktop_layout_cookie)  [\(/2227-9059/14/5/1121/pdf?version=1778846249\)](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01122/pdf?version=1778846249)

Susceptibility-Based MRI in Cerebral Arteriovenous Malformations: From Venous Drainage to Physiological Biomarkers—A Narrative Review (/2227-9059/14/5/1121)

by Karol Wiśniewski, Takashi Imori and Yasuaki Inoue

Biomedicines **2026**, *14*(5), 1121; <https://doi.org/10.3390/biomedicines14051121> (<https://doi.org/10.3390/biomedicines14051121>) - 15 May 2026

Viewed by 515

Abstract Background: Cerebral arteriovenous malformations (AVMs) are high-flow shunts in which abnormal arteriovenous connections expose draining veins to venous hypertension, arterialization, and altered oxygenation. While digital subtraction angiography (DSA) remains the reference standard for dynamic angioarchitecture, it does not directly characterize venous oxygenation or [...] **Read more.** (This article belongs to the Special Issue **Modern Applications of Advanced Imaging to Neurological Disease (/journal/biomedicines/special_issues/EL063LEUS3)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01121/article_deploy/html/images/biomedicines-14-01121-g001-550.jpg?1778846417)

Open Access Article

17 pages, 2552 KB

[\(/2227-9059/14/5/1120/pdf?version=1778838839\)](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01120/pdf?version=1778838839) 

Multi-Target Inhibition of F10/F2/PAR1 Through In Silico Drug Repurposing of Avodart and Naldemedine to Prevent Thrombotic-Induced Sudden Cardiac Arrest (/2227-9059/14/5/1120)

by Abeer M. Al-Subaie and Sayed AbdulAzeez

Biomedicines **2026**, *14*(5), 1120; <https://doi.org/10.3390/biomedicines14051120> (<https://doi.org/10.3390/biomedicines14051120>) - 15 May 2026

Viewed by 433

Abstract Background: Thrombotic disorders remain one of the leading causes of global mortality, necessitating the discovery of anticoagulants with broader therapeutic windows and multi-target efficacy. This study aimed to identify FDA-approved drugs capable of simultaneously inhibiting three critical nodes of the coagulation cascade: Factor [...] **Read more.** (This article belongs to the Special Issue **Innovative Approaches in Drug Discovery (/journal/biomedicines/special_issues/9709QECA39)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01120/article_deploy/html/images/biomedicines-14-01120-g001-550.jpg?1778838907) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01120/article_deploy/html/images/biomedicines-14-01120-g002-550.jpg?1778838911) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01120/article_deploy/html/images/biomedicines-14-01120-g003-550.jpg?1778838917) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01120/article_deploy/html/images/biomedicines-14-01120-g004-550.jpg?1778838921)

Transurethral Injection of Autologous Micronized Adipose Tissue for Refractory Interstitial Cystitis/Bladder Pain Syndrome: A Retrospective Pilot Study [\(/2227-9059/14/5/1119\)](#)

by Mauro Cervigni, Alice Antonioni, Manfredi Bruno Sequi, Andrea Fuschi, Yazan Al Salhi, Fabio Maria Valenzi, Paolo Pietro Suraci, Antonio Carbone and Antonio Luigi Pastore
Biomedicines **2026**, *14*(5), 1119; <https://doi.org/10.3390/biomedicines14051119> (<https://doi.org/10.3390/biomedicines14051119>) - 15 May 2026

Cited by 1 [\(/2227-9059/14/5/1119#metrics\)](#) | Viewed by 405

Abstract Background/Objectives: Interstitial cystitis/bladder pain syndrome (IC/BPS) is a chronic condition characterized by pelvic pain, urinary symptoms, and reduced quality of life, with limited effective treatment options. Regenerative approaches using adipose-derived mesenchymal stromal cells (MSCs) have shown promising preclinical results. This study aimed [...] **Read more.**
 (This article belongs to the Section **Molecular and Translational Medicine** ([/journal/biomedicines/sections/medicine](#)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01119/article_deploy/html/images/biomedicines-14-01119-g001-550.jpg?1778838291) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01119/article_deploy/html/images/biomedicines-14-01119-g002-550.jpg?1778838295)

Low Expression of a Circular Transcript of the Apoptosis Regulator Gene *BOK* Is Associated with Unfavorable Prognosis in Breast Cancer [\(/2227-9059/14/5/1118\)](#)

by Vaia K. Stafyla, Spyridon Christodoulou, Nikolaos Michalopoulos, Efthimios Poullos, Panagiotis Kokoropoulos, Christos K. Kontos and Nikolaos Arkadopoulos
Biomedicines **2026**, *14*(5), 1118; <https://doi.org/10.3390/biomedicines14051118> (<https://doi.org/10.3390/biomedicines14051118>) - 15 May 2026

Viewed by 362

Abstract Background: We recently identified multiple alternative circRNAs generated through alternative circularization of primary transcripts of the BCL2-related ovarian killer (*BOK*) gene. In the present study, we evaluated the prognostic potential of a recently discovered *BOK* circRNA, namely circ-BOK-6, in breast [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** ([/journal/biomedicines/sections/medicine](#)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01118/article_deploy/html/images/biomedicines-14-01118-g001-550.jpg?1778832034) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01118/article_deploy/html/images/biomedicines-14-01118-g002-550.jpg?1778832034)

1778832035) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01118/article_deploy/html/images/biomedicines-14-01118-g003-550.jpg?1778832037) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01118/article_deploy/html/images/biomedicines-14-01118-g004-550.jpg?1778832040)

Open Access Article 16 pages, 816 KB [\(/2227-9059/14/5/1117/pdf?version=1778773730\)](https://doi.org/10.3390/biomedicines14051117)

Exploratory Analysis of Tannic Acid–Induced Antiproliferative Effects in SH-SY5Y Neuroblastoma Cells: Associations with Toll-like Receptors and microRNAs ([/2227-9059/14/5/1117](https://doi.org/10.3390/biomedicines14051117))

by Tuba Gül and Mücahit Seçme

Biomedicines **2026**, *14*(5), 1117; <https://doi.org/10.3390/biomedicines14051117> (<https://doi.org/10.3390/biomedicines14051117>) - 14 May 2026

Viewed by 1973

Abstract Background/Objectives: Neuroblastoma is the most frequent solid tumor outside the brain in children and is associated with unfavorable outcomes in high-risk patients. Tannic acid, a naturally occurring polyphenolic compound, has been reported to exhibit anticancer activity; however, its molecular effects in neuroblastoma [...] **Read more.**

(This article belongs to the Section **Cancer Biology and Oncology** ([/journal/biomedicines/sections/cancer](https://journal.biomedicines.com/sections/cancer)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01117/article_deploy/html/images/biomedicines-14-01117-g001-550.jpg?1778773796) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01117/article_deploy/html/images/biomedicines-14-01117-g002-550.jpg?1778773798) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01117/article_deploy/html/images/biomedicines-14-01117-g003-550.jpg?1778773803) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01117/article_deploy/html/images/biomedicines-14-01117-g004-550.jpg?1778773806)

Open Access Review 19 pages, 1098 KB [\(/2227-9059/14/5/1116/pdf?version=1778769395\)](https://doi.org/10.3390/biomedicines14051116)

Evolution of Concepts Regarding the Diagnostic and Prognostic Significance of Glial Fibrillary Acidic Protein (GFAP)-Positive Extracellular Vesicles ([/2227-9059/14/5/1116](https://doi.org/10.3390/biomedicines14051116))

by Natalia Yunusova, Dmitry Svarovsky, Polina Panfilova, Anastasia Ryabova, Evgeniya Kaigorodova, Evgeniya Sidenko, Polina Gervas, Aleksey Molokov and Irina Kondakova
Biomedicines **2026**, *14*(5), 1116; <https://doi.org/10.3390/biomedicines14051116> (<https://doi.org/10.3390/biomedicines14051116>) - 14 May 2026

Viewed by 578

Abstract This review demonstrates that the diagnostic and prognostic significance of glial fibrillary acidic protein (GFAP) is not limited to its use as a marker of astrocytic damage but should also be considered in the context of the diversity of GFAP isoforms, their heterogeneous [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** ([/journal/biomedicines/sections/medicine](https://journal.biomedicines.com/sections/medicine)))

► [Show Figures](#)

MDPI (1)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01116/article_deploy/html/images/biomedicines-14-01116-g001-550.jpg?1778769570) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01116/article_deploy/html/images/biomedicines-14-01116-g002-550.jpg?1778769573) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01116/article_deploy/html/images/biomedicines-14-01116-g003-550.jpg?1778769575)

Open Access Article 23 pages, 10761 KB (</2227-9059/14/5/1115/pdf?version=1779354824>)

Dual Empagliflozin and Sacubitril/Valsartan Therapy Improves Ex Vivo Cardiac Function in a Rat Model of Heart Failure (/2227-9059/14/5/1115)

by Maja Murić, Ivan Srejšević, Marko Ravić, Jovana Joksimović Jović, Jasmina Sretenović, Marina Nikolić, Nevena Lazarević, Marijana Andjić, Aleksandar Kočović, Sergey Bolevich, Vladimir Jakovljević and Jovana Novaković

Biomedicines **2026**, *14*(5), 1115; <https://doi.org/10.3390/biomedicines14051115> (<https://doi.org/10.3390/biomedicines14051115>) - 14 May 2026

Viewed by 389

Abstract Background/Objectives: This study aimed to clarify the cardioprotective effects of combined empagliflozin and sacubitril/valsartan therapy in an experimental rat model of heart failure (HF). The main research question was whether dual treatment provides greater functional and molecular benefit than either monotherapy, with particular [...] [Read more.](#)

(This article belongs to the Section [Drug Discovery, Development and Delivery \(/journal/biomedicines/sections/Drug_Discovery\)](#))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01115/article_deploy/html/images/biomedicines-14-01115-ag-550.jpg?1779354929) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01115/article_deploy/html/images/biomedicines-14-01115-g001-550.jpg?1779354899) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01115/article_deploy/html/images/biomedicines-14-01115-g002-550.jpg?1779354903) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01115/article_deploy/html/images/biomedicines-14-01115-g003-550.jpg?1779354906) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01115/article_deploy/html/images/biomedicines-14-01115-g004-550.jpg?1779354908) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01115/article_deploy/html/images/biomedicines-14-01115-g005-550.jpg?1779354911) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01115/article_deploy/html/images/biomedicines-14-01115-g006-550.jpg?1779354913) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01115/article_deploy/html/images/biomedicines-14-01115-g007-550.jpg?1779354918) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01115/article_deploy/html/images/biomedicines-14-01115-g008-550.jpg?1779354922)

Open Access

19 pages, 8815 KB

[\(/2227-9059/14/5/1114/pdf?version=1778765892\)](#)

Uncovering the Targets of Pueraria Associated with Programmed Cell Death and the Construction of a Diagnostic Model in Septic Cardiomyopathy (/2227-9059/14/5/1114)

by **Fuwei Liu, Jun Luo, Peng Yu and Jianzhong Zhou**

Biomedicines **2026**, *14*(5), 1114; <https://doi.org/10.3390/biomedicines14051114> (<https://doi.org/10.3390/biomedicines14051114>) - 14 May 2026

Viewed by 451

Abstract Background: Septic cardiomyopathy (SCM) is a fatal sepsis-induced dysfunction. While Pueraria (Pue) exhibits protective effects in sepsis, its regulatory role regarding programmed cell death (PCD) in SCM remains unclear. This study aimed to identify Pue's PCD-related targets in SCM and construct a [...] **Read more.**

(This article belongs to the Special Issue **Advances in Biomarker Discovery for Cardiovascular Disease—2nd Edition (/journal/biomedicines/special_issues/R3M2512FO2)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01114/article_deploy/html/images/biomedicines-14-01114-g001-550.jpg?1778765958) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01114/article_deploy/html/images/biomedicines-14-01114-g002-550.jpg?1778765961) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01114/article_deploy/html/images/biomedicines-14-01114-g003-550.jpg?1778765964) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01114/article_deploy/html/images/biomedicines-14-01114-g004-550.jpg?1778765966) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01114/article_deploy/html/images/biomedicines-14-01114-g005-550.jpg?1778765968) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01114/article_deploy/html/images/biomedicines-14-01114-g006-550.jpg?1778765970) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01114/article_deploy/html/images/biomedicines-14-01114-g007-550.jpg?1778765972) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01114/article_deploy/html/images/biomedicines-14-01114-g008-550.jpg?1778765975)

Open Access

15 pages, 11665 KB

[\(/2227-9059/14/5/1113/pdf?version=1779098713\)](#)

Genome-Wide CRISPR/Cas9 Screening Identifies Modulators of THZ1 Response in Acute Myeloid Leukemia (/2227-9059/14/5/1113)

by **Weidong Ding, Xiaoya Yun, Yifan Liu and Hui Liu**

Biomedicines **2026**, *14*(5), 1113; <https://doi.org/10.3390/biomedicines14051113> (<https://doi.org/10.3390/biomedicines14051113>) - 14 May 2026

Viewed by 402

MDPI

Abstract Background/Objectives: Acute myeloid leukemia (AML) remains in need of more broadly effective therapeutic strategies. THZ1, a covalent CDK7 inhibitor, has shown anti-leukemic activity in AML, but the mechanism underlying its response remains incompletely defined. This study aimed to identify key modulators and related [...] [Read more.](#)

(This article belongs to the Section [Cancer Biology and Oncology \(/journal/biomedicines/sections/cancer/\)](#))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01113/article_deploy/html/images/biomedicines-14-01113-g001-550.jpg?1779098790) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01113/article_deploy/html/images/biomedicines-14-01113-g002-550.jpg?1779098790) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01113/article_deploy/html/images/biomedicines-14-01113-g003-550.jpg?1779098791) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01113/article_deploy/html/images/biomedicines-14-01113-g004-550.jpg?1779098791) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01113/article_deploy/html/images/biomedicines-14-01113-g005-550.jpg?1779098794) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01113/article_deploy/html/images/biomedicines-14-01113-sch001-550.jpg?1779098796)

Open Access Article

16 pages, 1081 KB

([/2227-9059/14/5/1112/pdf?version=1778762898](#))

[Agaro-Oligosaccharide Supplementation Alters the Gut Microbiota, Revealing Potential Agaro-Oligosaccharide-Utilizing Taxa in Healthy Japanese Adults \(/2227-9059/14/5/1112\)](#)

by Natasia Hoshiba, Tadashi Fujii, Rina Yagasaki, Toshiyuki Ochi, Katsuhiro Shiba, Hideaki Takahashi, Kohei Funasaka, Eizaburo Ono, Yoshiki Hirooka, Takumi Tochio and Koji Karasawa

Biomedicines **2026**, *14*(5), 1112; <https://doi.org/10.3390/biomedicines14051112> (<https://doi.org/10.3390/biomedicines14051112>) - 14 May 2026

Viewed by 526

Abstract Background: Agaro-oligosaccharides (AOS) have been shown to modulate the gut microbiota in in vitro and animal studies; however, human evidence remains scarce. **Methods:** Herein, we conducted a four-week open-label, single-arm, non-randomized pilot trial in 18 healthy Japanese adults to examine the association of [...] [Read more.](#)

(This article belongs to the Section [Microbiology in Human Health and Disease \(/journal/biomedicines/sections/Disease_Microbiology/\)](#))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01112/article_deploy/html/images/biomedicines-14-01112-ag-550.jpg?1778763004) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01112/article_deploy/html/images/biomedicines-14-01112-g001-550.jpg?1778763004)

1778762989) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01112/article_deploy/html/images/biomedicines-14-01112-g002-550.jpg?1778762990) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01112/article_deploy/html/images/biomedicines-14-01112-g003-550.jpg?1778762991) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01112/article_deploy/html/images/biomedicines-14-01112-g004-550.jpg?1778762994) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01112/article_deploy/html/images/biomedicines-14-01112-g005-550.jpg?1778762994)

Open Access Article

14 pages, 786 KB

(/2227-9059/14/5/1111/pdf?version=1778763753)

In Vitro Evaluation of GLP-1R-Associated Activity of a Sustainable Standardized Phospholipid-Formulated Bergamot Extract (/2227-9059/14/5/1111)

by Amjad Khan, Rosa M. Mella, Patricia Villacé, Meritxell Roura-Ferrer, Jorge Gamiz, Alessandro Poli, Loredana Redaelli, Giovanna Maresca and Giovanna Petrangolini
Biomedicines **2026**, *14*(5), 1111; <https://doi.org/10.3390/biomedicines14051111> (<https://doi.org/10.3390/biomedicines14051111>) - 14 May 2026

Viewed by 586

Abstract Background: Metabolic syndrome is characterized by dysregulated glucose metabolism and is a major risk factor for type 2 diabetes mellitus and cardiovascular disease. Although glucose-lowering therapies such as glucagon-like peptide-1 receptor (GLP-1R) agonists are effective, their use may be limited by cost, administration [...] **Read more.**

(This article belongs to the Special Issue **Cardiometabolic Diseases: Molecular Biomarkers and Treatment Strategies** (/journal/biomedicines/special_issues/T6KG31UYW9))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01111/article_deploy/html/images/biomedicines-14-01111-g001-550.jpg?1778763901) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01111/article_deploy/html/images/biomedicines-14-01111-g002-550.jpg?1778763904) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01111/article_deploy/html/images/biomedicines-14-01111-g003-550.jpg?1778763906) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01111/article_deploy/html/images/biomedicines-14-01111-g004-550.jpg?1778763906)

Open Access Article

17 pages, 9003 KB

(/2227-9059/14/5/1110/pdf?version=1778759693)

Ligand–Receptor Interaction Combined with Histopathology Improves Glioma Prognostic Model (/2227-9059/14/5/1110)

by Lun Gao, Rui Zhang, Xiaonan Zhu, Haitao Xu, Qianxue Chen, Min Peng and Junhui Liu
Biomedicines **2026**, *14*(5), 1110; <https://doi.org/10.3390/biomedicines14051110> (<https://doi.org/10.3390/biomedicines14051110>) - 14 May 2026

Viewed by 420

Abstract Background: Glioblastoma (GBM) is the most aggressive primary brain tumor with extremely

poor prognosis. Conventional diagnostic and prognostic approaches remain inadequate, highlighting the need for integrative strategies to improve patient outcomes. **Methods:** We analyzed ligand–receptor (L–R) interactions in TCGA-GBM transcriptomes using BulkSignalL-R, and [...] **Read more.**

(This article belongs to the Special Issue **Glioblastoma: Pathogenesis, Diagnostic and Therapeutic Perspectives** (/journal/biomedicines/special_issues/Z79UE14XL7))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01110/article_deploy/html/images/biomedicines-14-01110-g001-550.jpg?1778759818) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01110/article_deploy/html/images/biomedicines-14-01110-g002-550.jpg?1778759822) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01110/article_deploy/html/images/biomedicines-14-01110-g003-550.jpg?1778759824) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01110/article_deploy/html/images/biomedicines-14-01110-g004-550.jpg?1778759827) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01110/article_deploy/html/images/biomedicines-14-01110-g005-550.jpg?1778759832) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01110/article_deploy/html/images/biomedicines-14-01110-g006-550.jpg?1778759834) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01110/article_deploy/html/images/biomedicines-14-01110-g007-550.jpg?1778759840)

Open Access Article 18 pages, 7565 KB (/2227-9059/14/5/1109/pdf?version=1778764850)

Assessing the Angiogenic Potential of Poly(ϵ -Caprolactone) PCL/Bioactive Glass Composites in a Co-Culture Model of ASCs and HMEC-1 (/2227-9059/14/5/1109)

by Clarissa Orrico, Ilaria Roato, Alessandro Mosca Balma, Sara Meinardi, Giacomo Baima, Tullio Genova, Marta Miola, Enrica Verné and Federico Mussano

Biomedicines **2026**, *14*(5), 1109; <https://doi.org/10.3390/biomedicines14051109> (<https://doi.org/10.3390/biomedicines14051109>) - 14 May 2026

Cited by 1 (/2227-9059/14/5/1109#metrics) | Viewed by 438

Abstract Background/Objectives: An ideal bone scaffold should promote bone cell growth and functional vascularization, hence the importance of imbuing biomaterials with pro-angiogenic cues. In this work, silica-based bioactive glasses, either pristine (SBA3) or doped with copper (SBA3_Cu), were embedded in poly(ϵ -caprolactone) (PCL), which [...] **Read more.**

(This article belongs to the Special Issue **Novel Biomaterials and Tissue Engineering Approaches in Periodontal Regeneration** (/journal/biomedicines/special_issues/29Z43C6VL1))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01109/article_deploy/html/images/biomedicines-14-01109-g001-550.jpg?1778764929) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01109/article_deploy/html/images/biomedicines-14-01109-g002-550.jpg?1778764933) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01109/article_deploy/html/images/biomedicines-14-01109-g003-550.jpg?1778764938) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01109/article_deploy/html/images/biomedicines-14-01109-g004-550.jpg?1778764942) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01109/article_deploy/html/images/biomedicines-14-01109-g005-550.jpg?1778764946) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01109/article_deploy/html/images/biomedicines-14-01109-g006-550.jpg?1778764950) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01109/article_deploy/html/images/biomedicines-14-01109-g007-550.jpg?1778764954)

 [biomedicines-14-01109/article_deploy/html/images/biomedicines-14-01109-g004-550.jpg?1778764946](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01109/article_deploy/html/images/biomedicines-14-01109-g004-550.jpg?1778764946) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01109/article_deploy/html/images/biomedicines-14-01109-g005-550.jpg?1778764950) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01109/article_deploy/html/images/biomedicines-14-01109-g006-550.jpg?1778764957) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01109/article_deploy/html/images/biomedicines-14-01109-g007-550.jpg?1778764965)

Open Access Article 19 pages, 2148 KB [\(/2227-9059/14/5/1108/pdf?version=1778755944\)](https://doi.org/10.3390/biomedicines14051108/pdf?version=1778755944) 

Comparative Effectiveness of Finerenone Versus SGLT2 Inhibitors in Patients with HFpEF and CKD: A Real-World Propensity-Matched TriNetX Analysis ([/2227-9059/14/5/1108](https://doi.org/10.3390/biomedicines14051108))

by Faizan Ahmed, Saifullah Khan, Najam Gohar, Fenilkumar Kotadiya, Muhammad Hassan, Nisha Khalid, Muhammad Hussain, Tehmasp Rehman Mirza, Faseeh Haider, Muhammad Abdullah, Haris Bin Tahir, Mohammad Hamza, Ameer Haider Cheema, Amro Taha, Mohammad Omar Butt, Shamaiza Waqas and Fawaz Alenezi

Biomedicines **2026**, *14*(5), 1108; <https://doi.org/10.3390/biomedicines14051108> (<https://doi.org/10.3390/biomedicines14051108>) - 14 May 2026

Viewed by 885

Abstract Background: Finerenone and sodium–glucose cotransporter-2 inhibitors provide cardiovascular and renal benefits in patients with chronic kidney disease (CKD) and heart failure (HF), but real-world comparative evidence is limited. **Methods:** This retrospective study used the TriNetX database. Adults ≥ 40 years with [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** ([/journal/biomedicines/sections/medicine](https://www.mdpi.com/journal/biomedicines/sections/medicine)))

Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01108/article_deploy/html/images/biomedicines-14-01108-ag-550.jpg?1778756030) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01108/article_deploy/html/images/biomedicines-14-01108-g001-550.jpg?1778756015) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01108/article_deploy/html/images/biomedicines-14-01108-g002-550.jpg?1778756017) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01108/article_deploy/html/images/biomedicines-14-01108-g003-550.jpg?1778756018) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01108/article_deploy/html/images/biomedicines-14-01108-g004-550.jpg?1778756020) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01108/article_deploy/html/images/biomedicines-14-01108-g005-550.jpg?1778756021) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01108/article_deploy/html/images/biomedicines-14-01108-g006-550.jpg?1778756023) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01108/article_deploy/html/images/biomedicines-14-01108-g007-550.jpg?1778756024)

 [article_deploy/html/images/biomedicines-14-01108-g008-550.jpg?1778756026](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01108/article_deploy/html/images/biomedicines-14-01108-g009-550.jpg?1778756028)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-01108-g009-550.jpg?1778756028](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01108/article_deploy/html/images/biomedicines-14-01108-g009-550.jpg?1778756028)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-01108-g010-550.jpg?1778756030](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01108/article_deploy/html/images/biomedicines-14-01108-g010-550.jpg?1778756030))

Open Access Review

30 pages, 3751 KB

[\(/2227-9059/14/5/1107/pdf?version=1778758244\)](https://doi.org/10.3390/biomedicines14051107/pdf?version=1778758244)

Nanozymes as Emerging Therapeutics for Asthma: A Redox-Responsive and Immunomodulatory Strategy ([/2227-9059/14/5/1107](https://doi.org/10.3390/biomedicines14051107))

by Manar T. El-Morsy, Nadine M. Askar, Ali Emad Khurkhash, Nagm Al-Din Mahrous, Yusuf Ahmed Elberry, Mohamed Ramadan Sayed, Norhan Ashraf Ahmed, Rowayda A. Ahmed, Yehia S. Mohamed, Sinclair Steele, Ahmad Ahmeda, Rudaynah Mohamed and Doaa S. R. Khafaga, *Biomedicines* **2026**, *14*(5), 1107; <https://doi.org/10.3390/biomedicines14051107> (<https://doi.org/10.3390/biomedicines14051107>) - 14 May 2026

Viewed by 1263

Abstract Asthma is a chronic, etiologically diverse lung disease that contributes to worldwide morbidity and healthcare burdens. Although bronchodilators and corticosteroids remain the cornerstones of asthma treatment, their long-term use is associated with significant side effects. Furthermore, steroid resistance in severe asthma emphasizes the [...] **Read more.**

(This article belongs to the Special Issue **New Insights in Respiratory Diseases (2nd Edition)** ([/journal/biomedicines/special_issues/QO7VH11671](https://doi.org/10.3390/biomedicines14051107)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01107/article_deploy/html/images/biomedicines-14-01107-ag-550.jpg?1778758435) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01107/article_deploy/html/images/biomedicines-14-01107-g001-550.jpg?1778758433) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01107/article_deploy/html/images/biomedicines-14-01107-g002-550.jpg?1778758434) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01107/article_deploy/html/images/biomedicines-14-01107-g003-550.jpg?1778758434) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-01107-g004-550.jpg?1778758434](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01107/article_deploy/html/images/biomedicines-14-01107-g004-550.jpg?1778758434))

25 pages, 1009 KB

[\(/2227-9059/14/5/1106/pdf?version=1778752736\)](https://doi.org/10.3390/biomedicines14051106/pdf?version=1778752736) 

Open Access Systematic Review

Periodontitis, Endothelial Dysfunction, and Systemic Inflammation: A Systematic Review and Meta-Analysis of Flow-Mediated Dilation ([/2227-9059/14/5/1106](https://doi.org/10.3390/biomedicines14051106))

by Cristina Ples, Cristina Savencu, Ana-Maria Pah, Gheorghe Stoichescu-Hogea, Diana-Maria Mateescu and Roxana Oancea

Biomedicines **2026**, *14*(5), 1106; <https://doi.org/10.3390/biomedicines14051106> (<https://doi.org/10.3390/biomedicines14051106>) - 14 May 2026

Viewed by 443

Abstract Background/Objectives: Periodontal disease is a chronic inflammatory condition associated with systemic vascular dysfunction and elevated cardiovascular risk. This systematic review and meta-analysis aimed to quantitatively evaluate the association between periodontitis and endothelial dysfunction and to assess the effects of periodontal therapy on [Read more](#)   
(This article belongs to the Special Issue **Periodontal Disease: From Pathophysiology to Novel Therapeutic Approaches—2nd Edition** (/journal/biomedicines/special_issues/H4K19K7E0J))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01106/article_deploy/html/images/biomedicines-14-01106-g001-550.jpg?1778752911) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01106/article_deploy/html/images/biomedicines-14-01106-g002-550.jpg?1778752913) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01106/article_deploy/html/images/biomedicines-14-01106-g003-550.jpg?1778752914)

Open Access Article

38 pages, 11462 KB

(</2227-9059/14/5/1105/pdf?version=1778750988>)

Artificial Intelligence in Renal Imaging: A Multi-Dataset Study for Kidney Disease Classification
(</2227-9059/14/5/1105>)

by **Berçem Afşar Karatepe** and **Burak Tasci**

Biomedicines **2026**, *14*(5), 1105; <https://doi.org/10.3390/biomedicines14051105> (<https://doi.org/10.3390/biomedicines14051105>) - 14 May 2026

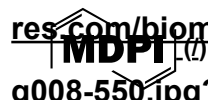
Viewed by 508

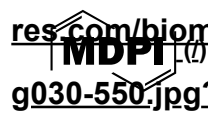
Abstract Objectives: To develop and rigorously evaluate a Hybrid Multi-Path Attention Convolutional Neural Network (HMPA-CNN) for the classification of kidney diseases across heterogeneous institutional datasets and imaging modalities. **Materials and Methods:** The proposed HMPA-CNN employs dual parallel pathways to disentangle spatial (3×3 [...]) [Read more](#).

(This article belongs to the Special Issue **New Advances in Kidney Diseases Research** (/journal/biomedicines/special_issues/IB31ZZRMWT))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g001-550.jpg?1778751181) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g002-550.jpg?1778751183) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g003-550.jpg?1778751185) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g004-550.jpg?1778751190) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g005-550.jpg?1778751193) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g006-550.jpg?1778751197) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g007-550.jpg?1778751201) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g008-550.jpg?1778751205)

 [res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g008-550.jpg?1778751202](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g008-550.jpg?1778751202) [g008-550.jpg?1778751202](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g009-550.jpg?1778751203) [g009-550.jpg?1778751203](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g010-550.jpg?1778751204) [g010-550.jpg?1778751204](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g011-550.jpg?1778751205) [g011-550.jpg?1778751205](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g012-550.jpg?1778751206) [g012-550.jpg?1778751206](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g013-550.jpg?1778751208) [g013-550.jpg?1778751208](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g014-550.jpg?1778751209) [g014-550.jpg?1778751209](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g015-550.jpg?1778751210) [g015-550.jpg?1778751210](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g016-550.jpg?1778751211) [g016-550.jpg?1778751211](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g017-550.jpg?1778751213) [g017-550.jpg?1778751213](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g018-550.jpg?1778751214) [g018-550.jpg?1778751214](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g019-550.jpg?1778751215) [g019-550.jpg?1778751215](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g020-550.jpg?1778751216) [g020-550.jpg?1778751216](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g021-550.jpg?1778751218) [g021-550.jpg?1778751218](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g022-550.jpg?1778751219) [g022-550.jpg?1778751219](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g023-550.jpg?1778751221) [g023-550.jpg?1778751221](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g024-550.jpg?1778751222) [g024-550.jpg?1778751222](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g025-550.jpg?1778751224) [g025-550.jpg?1778751224](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g026-550.jpg?1778751225) [g026-550.jpg?1778751225](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g027-550.jpg?1778751226) [g027-550.jpg?1778751226](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g028-550.jpg?1778751227) [g028-550.jpg?1778751227](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g029-550.jpg?1778751229) [g029-550.jpg?1778751229](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g029-550.jpg?1778751229) [g029-550.jpg?1778751229](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g029-550.jpg?1778751229)

 [res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g030-550.jpg?1778751230](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g030-550.jpg?1778751230) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g031-550.jpg?1778751232) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g032-550.jpg?1778751233) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g033-550.jpg?1778751234) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g034-550.jpg?1778751235) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g035-550.jpg?1778751237) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g036-550.jpg?1778751237) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g037-550.jpg?1778751239) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g038-550.jpg?1778751242) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01105/article_deploy/html/images/biomedicines-14-01105-g039-550.jpg?1778751244)

Open Access Article

13 pages, 909 KB

[\(/2227-9059/14/5/1104/pdf?version=1778678826\)](https://doi.org/10.3390/biomedicines14051104/pdf?version=1778678826)

Neurodegenerative and Glial Physiology in Diabetic Retinopathy: Dissociated Effects of Forskolin on Neuronal Survival and Glial Activation (/2227-9059/14/5/1104)

by Hesham Saad Ata, Nessren M. Abd el-Rady, Asmaa M. S. Gomaa, Ahmed F. Omar, Ahmed Abdou, Maha Ali, Shimaa E. Soliman, Nada M. Fathy, Marwa H. Bakr, Dalia A. Elgamal, Manal M. Sayed, Eman Radwan and Amel Ahmed

Biomedicines **2026**, *14*(5), 1104; <https://doi.org/10.3390/biomedicines14051104> (<https://doi.org/10.3390/biomedicines14051104>) - 13 May 2026

Viewed by 469

Abstract Background/Objectives: Using a well-established model of streptozotocin-induced diabetic retinopathy (DR), this study sought to evaluate the neuroprotective effect of intravitreal Forskolin (FSK) on retinal ganglion cell survival and glial activation and explore the association of circulating miR-200b with metabolic and oxidative stress [...] **Read more.**

(This article belongs to the Section **Cell Biology and Pathology (/journal/biomedicines/sections/cell_pathology)**)

► Show Figures

https://pub.mdpi-res.com/biomedicines/biomedicines-14-01104/article_deploy/html/images/biomedicines-14-01104-ag-550.jpg?1778678910 (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01104/article_deploy/html/images/biomedicines-14-01104-g001-550.jpg?1778678904) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01104/article_deploy/html/images/biomedicines-14-01104-g002-550.jpg?1778678907) (<https://pub.mdpi-res.com/>)

An Explainable Transformer-Based Framework for Lung Cancer Classification and Automated Radiology Report Generation from Multi-Slice CT Images (2227-9059/14/5/1103)

by Oguzhan Katar, Tulin Akbalik and Ozal Yildirim

Biomedicines **2026**, *14*(5), 1103; <https://doi.org/10.3390/biomedicines14051103> (<https://doi.org/10.3390/biomedicines14051103>) - 13 May 2026

Viewed by 547

Abstract Background/Objectives: Lung cancer is one of the most common and lethal malignancies worldwide. Early detection remains challenging due to its variable biological behavior. Computed tomography (CT) is the primary imaging method used for early detection. However, the manual interpretation of CT scans is [...] **Read more.**

(This article belongs to the Special Issue **Thoracic Malignancies: From Pathophysiology to Novel Therapeutic Approaches: 2nd Edition** (/journal/biomedicines/special_issues/3X15F6777H))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01103/article_deploy/html/images/biomedicines-14-01103-g001-550.jpg?1779675479) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01103/article_deploy/html/images/biomedicines-14-01103-g002-550.jpg?1779675482) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01103/article_deploy/html/images/biomedicines-14-01103-g003-550.jpg?1779675485) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01103/article_deploy/html/images/biomedicines-14-01103-g004-550.jpg?1779675488) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01103/article_deploy/html/images/biomedicines-14-01103-g005-550.jpg?1779675492) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01103/article_deploy/html/images/biomedicines-14-01103-g006-550.jpg?1779675496) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01103/article_deploy/html/images/biomedicines-14-01103-g007-550.jpg?1779675501) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01103/article_deploy/html/images/biomedicines-14-01103-g008-550.jpg?1779675506) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01103/article_deploy/html/images/biomedicines-14-01103-g009-550.jpg?1779675511) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01103/article_deploy/html/images/biomedicines-14-01103-g010-550.jpg?1779675515) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01103/article_deploy/html/images/biomedicines-14-01103-g011-550.jpg?1779675518)

Heterogeneity, and Future Directions (/2227-9059/14/5/1102)

by **Georgi Nikolaev, Stefan Lozenov, Marina Konaktchieva, Borislav Arabadzhiev, Ivelina Vassileva, Radko Sotirov and Rossitza Konakchieva**

Biomedicines **2026**, *14*(5), 1102; <https://doi.org/10.3390/biomedicines14051102> (<https://doi.org/10.3390/biomedicines14051102>) - 13 May 2026

Viewed by 588

Abstract Gastrointestinal and liver diseases remain major contributors to global morbidity and mortality, with limited options for curative or regenerative treatment. Innovative cell-based platforms for liver regeneration and treatment include advanced therapy medicinal products (ATMPs) based on mesenchymal stem cells (MSCs), induced pluripotent stem [...]**Read more.**

(This article belongs to the Special Issue **Stem Cell Therapy: Traps and Tricks (/journal/biomedicines/special_issues/775OV2A2GE)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01102/article_deploy/html/images/biomedicines-14-01102-g001-550.jpg?1778670999)

Open Access Review

27 pages, 2788 KB

(</2227-9059/14/5/1101/pdf?version=1778680400>)

Novel Mechanistic Insights into Primary Biliary Cholangitis: From Pathogenesis to Mesenchymal Stem Cell-Mediated Repair (/2227-9059/14/5/1101)

by **Zhenxia Huang, Meiling Zhang, Xiaoyue Zhang, Yao Ge, Cuifang He and Junfeng Li**

Biomedicines **2026**, *14*(5), 1101; <https://doi.org/10.3390/biomedicines14051101> (<https://doi.org/10.3390/biomedicines14051101>) - 13 May 2026

Viewed by 777

Abstract Primary biliary cholangitis (PBC) is an autoimmune-mediated cholestatic liver disease characterized by the progressive destruction of intrahepatic bile ducts, which ultimately leads to hepatic fibrosis and cirrhosis. The current first-line therapy, ursodeoxycholic acid, is associated with a high rate of non-response. Moreover, second-line [...]**Read more.**

(This article belongs to the Special Issue **Feature Reviews in Mesenchymal Stem Cells (/journal/biomedicines/special_issues/FMI80B6630)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01101/article_deploy/html/images/biomedicines-14-01101-g001-550.jpg?1778680628) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01101/article_deploy/html/images/biomedicines-14-01101-g002-550.jpg?1778680632) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01101/article_deploy/html/images/biomedicines-14-01101-g003-550.jpg?1778680635) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01101/article_deploy/html/images/biomedicines-14-01101-g004-550.jpg?1778680639) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01101/article_deploy/html/images/biomedicines-14-01101-g005-550.jpg?1778680641) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01101/article_deploy/html/images/biomedicines-14-01101-g006-550.jpg?1778680644)

A Boronic Acid-Based Glutamine Analog Forms a Covalent Adduct with Kidney-Type Glutaminase and Suppresses Triple-Negative Breast Cancer Cell Proliferation
(/2227-9059/14/5/1100)

by Thiruselvam Viswanathan, Dinesh Devadoss, Achyuta Nagaraj, Barry P. Rosen, Hitendra S. Chand and Venkadesh Sarkarai Nadar

Biomedicines **2026**, *14*(5), 1100; <https://doi.org/10.3390/biomedicines14051100> (<https://doi.org/10.3390/biomedicines14051100>) - 13 May 2026

Viewed by 475

Abstract Background: Cancer cells exhibit metabolic reprogramming characterized by increased dependence on glutamine to sustain rapid proliferation and biosynthetic demands. Kidney-type glutaminase (KGA), which catalyzes the first and rate-limiting step of glutamine metabolism, represents a promising therapeutic target, particularly in triple-negative breast cancer [...] [Read more.](#)

(This article belongs to the Special Issue **Anti-Cancer Agents: Synthesis and Evaluation of Pharmacological Activity** (/journal/biomedicines/special_issues/SGO483K16O))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01100/article_deploy/html/images/biomedicines-14-01100-g001-550.jpg?1778675521) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01100/article_deploy/html/images/biomedicines-14-01100-g002-550.jpg?1778675522) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01100/article_deploy/html/images/biomedicines-14-01100-g003-550.jpg?1778675523) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01100/article_deploy/html/images/biomedicines-14-01100-g004-550.jpg?1778675524) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01100/article_deploy/html/images/biomedicines-14-01100-g005-550.jpg?1778675526) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01100/article_deploy/html/images/biomedicines-14-01100-g006-550.jpg?1778675527)

Rho-Kinase Inhibitor—A Molecule for Pharmacological Treatment of Decompensated Corneas: Case Series (/2227-9059/14/5/1099)

by Nina Kobal Mikša and Spela Stunf Pukl

Biomedicines **2026**, *14*(5), 1099; <https://doi.org/10.3390/biomedicines14051099> (<https://doi.org/10.3390/biomedicines14051099>) - 13 May 2026

Viewed by 1011

Abstract Objective: Rho-associated protein kinase (ROCK) inhibitors have recently emerged as promising agents for the treatment of corneal endothelial dysfunction. Because corneal transparency critically depends on endothelial cell function, endothelial failure can lead to persistent visual impairment. However, clinical evidence regarding the use of [...] [Read more.](#)

(This article belongs to the Special Issue **Pathogenesis and Treatment of Ophthalmic Diseases** ([/journal.biomedicines.com/special_issues/X9IGWHNRE1](https://journal.biomedicines.com/special_issues/X9IGWHNRE1)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01099/article_deploy/html/images/biomedicines-14-01099-g001-550.jpg?1778668427) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01099/article_deploy/html/images/biomedicines-14-01099-g002-550.jpg?1778668428)

Open Access Article

15 pages, 1552 KB

([/2227-9059/14/5/1098/pdf?version=1778664638](https://doi.org/10.3390/biomedicines14051098/pdf?version=1778664638))

Efficacy and Safety of Open-Source Hybrid Closed-Loop Automated Insulin Delivery in Perioperative Patients ([/2227-9059/14/5/1098](https://doi.org/10.3390/biomedicines14051098))

by Delin Ma, Weijie Xu, Yan Yang, Lingyan Bai, Junhui Xie, Jing Tao, Simiao Xu, Kun Dong, Xiaoli Shi, Xiaoqing Song, Yurong Zhu, Nan Sun, Guomin Huang, Fang Liu, Xianlong Hu, Jia Li, Mengran Li, Tangdong Ao, Jingyi Yuan, Xuefeng Yu and + [Show full author list](#)

Biomedicines **2026**, *14*(5), 1098; <https://doi.org/10.3390/biomedicines14051098> (<https://doi.org/10.3390/biomedicines14051098>) - 13 May 2026

Viewed by 541

Abstract Background: Evidence supports the effectiveness and safety of open-source automated insulin delivery (AID) in patients with type 1 diabetes. However, evidence regarding the clinical application of open-source AID in perioperative patients with type 2 diabetes remains limited. **Methods:** This was an open-label, single-center, [...] [Read more.](#)

(This article belongs to the Section **Endocrinology and Metabolism Research** ([/journal.biomedicines.com/sections/endocrinology_metabolism](https://journal.biomedicines.com/sections/endocrinology_metabolism)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01098/article_deploy/html/images/biomedicines-14-01098-g001-550.jpg?1778664757) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01098/article_deploy/html/images/biomedicines-14-01098-g002-550.jpg?1778664759) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01098/article_deploy/html/images/biomedicines-14-01098-g003-550.jpg?1778664762) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01098/article_deploy/html/images/biomedicines-14-01098-g0A1-550.jpg?1778664763)

Open Access Article

19 pages, 2451 KB

([/2227-9059/14/5/1097/pdf?version=1778654203](https://doi.org/10.3390/biomedicines14051097/pdf?version=1778654203))

Characterization of a Cytokine-Independent STAT5 Activator ([/2227-9059/14/5/1097](https://doi.org/10.3390/biomedicines14051097))

by Grace A. Aleck, Yena Jin, Zehui Gu and Adam H. Courtney

Biomedicines **2026**, *14*(5), 1097; <https://doi.org/10.3390/biomedicines14051097> (<https://doi.org/10.3390/biomedicines14051097>) - 13 May 2026

Viewed by 697

Abstract Background: Cytokine-induced JAK–STAT signaling becomes dysregulated in chronic human

MDPI (I)
diseases, including cancer and autoimmunity, and contributes to immune cell dysfunction. A cytokine-independent approach to activating STAT proteins could “hardwire” pro-survival and effector programs in immune cells to sustain function within diseased tissues. [...] [Read more.](#)

(This article belongs to the Section [Immunology and Immunotherapy](#) ([/journal/biomedicines/sections/immuno](#)))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01097/article_deploy/html/images/biomedicines-14-01097-g001-550.jpg?1778654336) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01097/article_deploy/html/images/biomedicines-14-01097-g002-550.jpg?1778654338) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01097/article_deploy/html/images/biomedicines-14-01097-g003-550.jpg?1778654342) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01097/article_deploy/html/images/biomedicines-14-01097-g004-550.jpg?1778654343) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01097/article_deploy/html/images/biomedicines-14-01097-g005-550.jpg?1778654345) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01097/article_deploy/html/images/biomedicines-14-01097-g006-550.jpg?1778654347)

Open Access Article

16 pages, 5635 KB

([/2227-9059/14/5/1096/pdf?version=1778644211](https://doi.org/10.3390/biomedicines14051096/pdf?version=1778644211))

[Accurate Quantification of Platelets and Leukocytes in Platelet-Rich Fibrin Using Direct Fibrinolytic Digestion: Effects of Centrifugation Protocols on Cellular Composition and Fibrin Architecture](#) ([/2227-9059/14/5/1096](#))

by **Pattheera Apaiso, Wutigri Nimlamool, Teerada Daroontum and Supatra Sangin**
Biomedicines **2026**, *14*(5), 1096; <https://doi.org/10.3390/biomedicines14051096> (<https://doi.org/10.3390/biomedicines14051096>) - 13 May 2026

Viewed by 525

Abstract Background/Objectives: Platelet-rich fibrin (PRF) is widely used in regenerative medicine and dentistry because of its ability to deliver growth factors and cellular components that support tissue healing. However, accurate quantification of platelets and leukocytes within PRF matrices remains challenging, as indirect subtraction-based [...] [Read more.](#)

(This article belongs to the Special Issue [Innovative Approaches in In Vitro Models: From Design to Application](#) ([/journal/biomedicines/special_issues/8X3I8H4XRM](#)))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01096/article_deploy/html/images/biomedicines-14-01096-g001-550.jpg?1778644375) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01096/article_deploy/html/images/biomedicines-14-01096-g002-550.jpg?1778644378) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01096/article_deploy/html/images/biomedicines-14-01096-g003-550.jpg?1778644380) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01096/article_deploy/html/images/biomedicines-14-01096-g004-550.jpg?1778644382) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01096/article_deploy/html/images/biomedicines-14-01096-g005-550.jpg?1778644384) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01096/article_deploy/html/images/biomedicines-14-01096-g006-550.jpg?1778644386)

g001-550.jpg?1778644382) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01096/article_deploy/html/images/biomedicines-14-01096-g005-550.jpg?1778644385)

Open Access Article

13 pages, 585 KB

 (/toggle_desktop_layout_cookie)  
(/2227-9059/14/5/1095/pdf?version=1778664778)

Preliminary Genotoxicity Assessment of Calcium Phosphate Cement Incorporated with Palm Tocotrienol Using Bacterial Reverse Mutation Assay (/2227-9059/14/5/1095)

by Sok Kuan Wong, Siti Sarah Md Dali, Kok-Yong Chin, Fairus Ahmad, Abdul Hadi Ariffin, Farah Md Fauzi, Muhd. Zulkarnain Mahmud and Ilyana Hakimi Ahmad Sabri

Biomedicines **2026**, *14*(5), 1095; <https://doi.org/10.3390/biomedicines14051095> (<https://doi.org/10.3390/biomedicines14051095>) - 12 May 2026

Viewed by 411

Abstract Background/Objectives: Calcium phosphate cement (CPC) is extensively utilised in bone repair owing to its biocompatibility, osteoconductivity, and compositional similarity to native bone. Functionalisation of CPC with palm tocotrienol may enhance its regenerative potential. However, the incorporation of phytochemicals requires safety evaluation to [...] **Read more.**

(This article belongs to the Section **Microbiology in Human Health and Disease (/journal/biomedicines/sections/Disease_Microbiology/)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01095/article_deploy/html/images/biomedicines-14-01095-g001-550.jpg?1778664874)

Open Access Article

14 pages, 1302 KB

(/2227-9059/14/5/1094/pdf?version=1778594364)

Exosomal CNP and CNP-Related microRNAs: An Open Window into Brugada Syndrome? (/2227-9059/14/5/1094)

by Manuela Cabiati, Federico Vozzi, Elisa Persiani, Marcello Piacenti, Andrea Rossi, Agnese Sgalippa, Antonella Cecchetti, Gianluca Solarino, Giulio Zucchelli, Lorenzo Mazzocchetti, Pasquale Notarstefano, Letizia Guiducci, Maria Aurora Morales and Silvia Del Ry

Biomedicines **2026**, *14*(5), 1094; <https://doi.org/10.3390/biomedicines14051094> (<https://doi.org/10.3390/biomedicines14051094>) - 12 May 2026

Viewed by 548

Abstract Background: Brugada Syndrome (BrS) is a cardiac arrhythmia associated with an increased risk of ventricular arrhythmias and sudden cardiac arrest. Although the arrhythmic substrate is traditionally localized to the ventricles, atrial fibrillation (AF) is frequently observed, suggesting a shared molecular substrate between atrial [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine (/journal/biomedicines/sections/medicine/)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01094/article_deploy/html/images/biomedicines-14-01094-g001-550.jpg?1778594451) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01094/article_deploy/html/images/biomedicines-14-01094-g002-550.jpg?1778594451)

1778594452) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01094/article_deploy/html/images/biomedicines-14-01094-g003-550.jpg?1778594454) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01094/article_deploy/html/images/biomedicines-14-01094-g004-550.jpg?1778594456) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01094/article_deploy/html/images/biomedicines-14-01094-g005-550.jpg?1778594457)

Open Access Review 22 pages, 2660 KB [\(/2227-9059/14/5/1093/pdf?version=1779265964\)](https://doi.org/10.3390/biomedicines14051093/pdf?version=1779265964)

Hepatocarcinogenesis in Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD): Emerging Roles of Interleukin-10 and Transcriptomic Insights into IL-10 Signaling Rewiring (/2227-9059/14/5/1093)

by Helena Solleiro-Villavicencio, Lucía Angélica Méndez-García, Itzel Baltazar-Pérez, Pablo Fernando Pineda-Pérez and Ana Alfaro-Cruz

Biomedicines **2026**, *14*(5), 1093; <https://doi.org/10.3390/biomedicines14051093> (<https://doi.org/10.3390/biomedicines14051093>) - 12 May 2026

Viewed by 1104

Abstract Metabolic dysfunction-associated steatotic liver disease (MASLD) and its progressive inflammatory form, metabolic dysfunction-associated steatohepatitis (MASH), are increasingly recognized as key drivers of hepatocellular carcinoma (HCC). Unlike HCC caused by viral infections or alcohol, MASLD/MASH-related liver cancer develops within a chronic immunometabolic environment characterized [...]. **Read more.**

(This article belongs to the Special Issue **The Role of Cytokines in Health and Disease: 3rd Edition (/journal/biomedicines/special_issues/K41RNNN91X)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01093/article_deploy/html/images/biomedicines-14-01093-g001-550.jpg?1779266049) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01093/article_deploy/html/images/biomedicines-14-01093-g002-550.jpg?1779266050) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01093/article_deploy/html/images/biomedicines-14-01093-g003-550.jpg?1779266053) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01093/article_deploy/html/images/biomedicines-14-01093-g004-550.jpg?1779266057) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01093/article_deploy/html/images/biomedicines-14-01093-g005-550.jpg?1779266058)

Open Access Article 21 pages, 40018 KB [\(/2227-9059/14/5/1092/pdf?version=1779185718\)](https://doi.org/10.3390/biomedicines14051092/pdf?version=1779185718)

D-Pinitol Mitigates Renal Senescence via Targeting the SARM1-cGAS-STING Signaling Axis to Restore Mitochondrial Function and Dampen Inflammatory Responses (/2227-9059/14/5/1092)

by Xiaofan Yin, Kaizhi Wen, Kena Yu, Zhengxin Liu and Weiming He

Biomedicines **2026**, *14*(5), 1092; <https://doi.org/10.3390/biomedicines14051092> (<https://doi.org/10.3390/biomedicines14051092>) - 12 May 2026

Viewed by 668

Abstract Background: Renal aging represents a pivotal contributor to the pathogenesis and progression of age-related kidney disorders. D-Pinitol (DP), a bioactive cyclitol naturally present in food plants, exhibits multiple beneficial biological activities. Nevertheless, its role in counteracting renal aging remains unclear. **Methods:** [...] **Read more.**  (/toggle_desktop_layout_cookie)  

(This article belongs to the Special Issue **Natural Product for the Interventions of Chronic Diseases: From Source to Therapy—2nd Edition** (/journal/biomedicines/special_issues/5ACP7HSLWX))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01092/article_deploy/html/images/biomedicines-14-01092-ag-550.jpg?1779257941) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01092/article_deploy/html/images/biomedicines-14-01092-g001-550.jpg?1779185793) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01092/article_deploy/html/images/biomedicines-14-01092-g002-550.jpg?1779185796) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01092/article_deploy/html/images/biomedicines-14-01092-g003-550.jpg?1779185800) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01092/article_deploy/html/images/biomedicines-14-01092-g004-550.jpg?1779185803) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01092/article_deploy/html/images/biomedicines-14-01092-g005-550.jpg?1779185808) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01092/article_deploy/html/images/biomedicines-14-01092-g006-550.jpg?1779185812) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01092/article_deploy/html/images/biomedicines-14-01092-g007-550.jpg?1779185816) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01092/article_deploy/html/images/biomedicines-14-01092-g008-550.jpg?1779185819)

Open Access Review

26 pages, 1127 KB

(/2227-9059/14/5/1091/pdf?version=1778594092)

Heat Shock Protein 27 in Radiation-Induced Trismus: Mechanistic Insights and a Hypothesis-Generating Framework (/2227-9059/14/5/1091)

by Erkan Topkan, Efsun Somay, Doga Topkan, Sukran Senyurek, Duriye Ozturk and Ugur Selek *Biomedicines* **2026**, *14*(5), 1091; <https://doi.org/10.3390/biomedicines14051091> (<https://doi.org/10.3390/biomedicines14051091>) - 12 May 2026

Viewed by 647

Abstract Radiation-induced trismus (RIT) is a common and function-limiting late complication of radiotherapy for head and neck cancers, particularly when the masticatory muscles and temporomandibular joint receive high doses. Despite advances in intensity-modulated radiotherapy, RIT remains a significant survivorship problem, and robust biological biomarkers [...] **Read more.**

(This article belongs to the Special Issue **Oral Oncology and Potentially Malignant Disorders** (/journal/biomedicines/special_issues/8QQS858X35))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01091/article_deploy/html/images/biomedicines-14-01091-g001-550.jpg?1778594255) (<https://pub.mdpi-res.com/biomedicines/>)

Machine Learning-Based Identification of Immune Inflammation-Related Genes as Shared Potential Diagnostic Biomarkers in Autism Spectrum Disorder and Atopic Dermatitis
[\(//2227-9059/14/5/1090\)](#)

by Ruiling Yang, Fushen Zhang and Jufang Huang

Biomedicines **2026**, *14*(5), 1090; <https://doi.org/10.3390/biomedicines14051090> (<https://doi.org/10.3390/biomedicines14051090>) - 12 May 2026

Viewed by 619

Abstract Background: ASD is a class of neurodevelopmental disorders with onset in early childhood, whereas AD is a common chronic inflammatory skin disease. An increasing number of studies suggest that immune dysregulation and inflammatory responses play important roles in the onset and progression [...] [Read more.](#)

(This article belongs to the Section [Cell Biology and Pathology](#) ([/journal/biomedicines/sections/cell_pathology](#)))

► [Show Figures](#)

https://pub.mdpi-res.com/biomedicines/biomedicines-14-01090/article_deploy/html/images/biomedicines-14-01090-g001-550.jpg?1778589899) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01090/article_deploy/html/images/biomedicines-14-01090-g002-550.jpg?1778589905) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01090/article_deploy/html/images/biomedicines-14-01090-g003-550.jpg?1778589906) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01090/article_deploy/html/images/biomedicines-14-01090-g004-550.jpg?1778589907) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01090/article_deploy/html/images/biomedicines-14-01090-g005-550.jpg?1778589908) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01090/article_deploy/html/images/biomedicines-14-01090-g006-550.jpg?1778589909) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01090/article_deploy/html/images/biomedicines-14-01090-g007-550.jpg?1778589913) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01090/article_deploy/html/images/biomedicines-14-01090-g008-550.jpg?1778589918)

Diet, Metabolism and Synaptic Function: Integrating Evidence Across Models in Neurodegeneration Research ([/2227-9059/14/5/1089](#))

by Imogen L. Targett, John T. Hancock and Tim J. Craig

Biomedicines **2026**, *14*(5), 1089; <https://doi.org/10.3390/biomedicines14051089> (<https://doi.org/10.3390/biomedicines14051089>) - 12 May 2026

Viewed by 750

Abstract The brain has a higher energy demand per unit weight than any other organ in the body; however, links between metabolism, diet and neurological function have historically been underexplored. This partly stems from early assumptions that brain metabolism is primarily dependent on glucose [...]
Read more.  [\(/toggle_desktop_layout_cookie\)](#)  

(This article belongs to the Special Issue **Synaptic Function and Modulation in Health and Disease** ([/journal/biomedicines/special_issues/E265S99UUC](#)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01089/article_deploy/html/images/biomedicines-14-01089-g001-550.jpg?1778580189)

Open Access Article

12 pages, 714 KB

[\(/2227-9059/14/5/1088/pdf?version=1779687929\)](#)

Volumetric and Functional Features of Left Atrium in Chronic Schizophrenia—Detailed Analysis from Three-Dimensional Speckle-Tracking Echocardiographic MAGYAR-Path Study
([/2227-9059/14/5/1088](#))

by Attila Nemes, Renáta Halcsik, Árpád Kormányos, Nándor Gyenes, Asghar Keifari, Bence András Lázár, Csaba Lengyel and János Kálmán

Biomedicines **2026**, *14*(5), 1088; <https://doi.org/10.3390/biomedicines14051088> (<https://doi.org/10.3390/biomedicines14051088>) - 12 May 2026

Viewed by 502

Abstract Introduction: Health problems related to cardiovascular morbidity and mortality are overrepresented in patients with schizophrenia (SCH) and their rates have not declined in parallel with those of the general population. Cardiovascular diseases in patients with SCH are less likely to be diagnosed [...]
Read more.

(This article belongs to the Section **Molecular and Translational Medicine** ([/journal/biomedicines/sections/medicine](#)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01088/article_deploy/html/images/biomedicines-14-01088-g001-550.jpg?1779688074)

Open Access Article

20 pages, 1948 KB

[\(/2227-9059/14/5/1087/pdf?version=1778579559\)](#) 

Efficacy and Safety of a Bioinspired Chitosan–Catechol/Gelatin Hemostatic Patch vs. TachoSil in Hepatectomy: A Randomized Noninferiority Trial ([/2227-9059/14/5/1087](#))

by Seoung Hoon Kim, Keumyeon Kim, Kyoungok Yun and Gyu-Seong Choi

Biomedicines **2026**, *14*(5), 1087; <https://doi.org/10.3390/biomedicines14051087> (<https://doi.org/10.3390/biomedicines14051087>) - 12 May 2026

Viewed by 574

Abstract Background/Objectives: Topical hemostatic biomaterials are used to control diffuse parenchymal bleeding during hepatectomy. TachoSil is a widely used standard fibrin sealant patch. We evaluated the efficacy and safety of InnoSEAL Plus DL, a novel bioinspired absorbable chitosan–catechol/gelatin hemostatic patch, compared with TachoSil. [...]
Read more.

(This article belongs to the Special Issue **Applications of Biomedical Engineering and Biomaterials in Human Diseases** ([/journal/biomedicines/special_issues/PXD6SYFNWN](#)))

► [Show Figures](#)

MDPI (1)
(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01087/article_deploy/html/images/biomedicines-14-01087-g001-550.jpg?1778579670) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01087/article_deploy/html/images/biomedicines-14-01087-g002-550.jpg?1778579673)

Open Access Article

25 pages, 2183 KB

([/2227-9059/14/5/1086/pdf?version=1778578527](#))

Exploratory Analysis of Plasma Angiotensin-Converting Enzyme 2 and Angiotensin Peptides as Candidate Discriminatory Signals in Breast Cancer: A Pilot Case–Control Study ([/2227-9059/14/5/1086](#))

by **Biwash Ghimire, Pradeep Giri, Susan Tavernier, Sarah E. Hobdey and Ali Aghazadeh-Habashi**
Biomedicines **2026**, *14*(5), 1086; <https://doi.org/10.3390/biomedicines14051086> (<https://doi.org/10.3390/biomedicines14051086>) - 12 May 2026

Viewed by 535

Abstract Background: The renin-angiotensin system (RAS), traditionally known for its role in cardiovascular regulation, has also emerged as a key regulator of tumor progression and metastasis. Dysregulation of the RAS components has been implicated in breast cancer due to the significant presence of the [...] **Read more.**

(This article belongs to the Special Issue **Advanced Cancer Diagnosis and Treatment: Third Edition** ([/journal/biomedicines/special_issues/7ISL1F7ZC2](#)))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01086/article_deploy/html/images/biomedicines-14-01086-g001-550.jpg?1778578592) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01086/article_deploy/html/images/biomedicines-14-01086-g002-550.jpg?1778578596) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01086/article_deploy/html/images/biomedicines-14-01086-g003-550.jpg?1778578598) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01086/article_deploy/html/images/biomedicines-14-01086-g004-550.jpg?1778578602) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01086/article_deploy/html/images/biomedicines-14-01086-g005-550.jpg?1778578607) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01086/article_deploy/html/images/biomedicines-14-01086-g006-550.jpg?1778578610) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01086/article_deploy/html/images/biomedicines-14-01086-g007-550.jpg?1778578613)

Open Access Article

13 pages, 619 KB

([/2227-9059/14/5/1085/pdf?version=1779180653](#))

Procalcitonin Elevation in Intoxication- and Immobilization-Related Non-Traumatic Rhabdomyolysis: Association with Muscle Injury Severity and Renal Dysfunction ([/2227-9059/14/5/1085](#))

by **Linas Zdanavičius, Gabija Laubner Sakalauskienė, Viktorija Antonova Šiaudvytė and Robertas Badaras**

Abstract Background: Procalcitonin (PCT) is widely used as a biomarker of bacterial infection, but it may also increase in non-infectious inflammatory states. This study investigated the association of PCT with muscle injury severity and renal dysfunction in patients with non-traumatic rhabdomyolysis.

Methods: We prospectively [...] [Read more.](#)

(This article belongs to the Section [Molecular and Translational Medicine \(/journal/biomedicines/sections/medicine\)](#))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01085/article_deploy/html/images/biomedicines-14-01085-g0A1-550.jpg?1779180867) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01085/article_deploy/html/images/biomedicines-14-01085-g0A2-550.jpg?1779180868) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01085/article_deploy/html/images/biomedicines-14-01085-g0A3-550.jpg?1779180870)

Open Access Review

30 pages, 2291 KB

([/2227-9059/14/5/1084/pdf?version=1778549816](#))

The Gastrointestinal Barrier—Mechanisms of Barrier Dysfunction in Liver Cirrhosis and Spontaneous Bacterial Peritonitis ([/2227-9059/14/5/1084](#))

by Catalina Olaru-Stavila, Sara Martina Steinmann, Patricia Mester, Martina Müller, Eugen Tcaciuc and Karsten Gülow

Biomedicines 2026, 14(5), 1084; <https://doi.org/10.3390/biomedicines14051084> (<https://doi.org/10.3390/biomedicines14051084>) - 11 May 2026

Cited by 1 ([/2227-9059/14/5/1084#metrics](#)) | Viewed by 1052

Abstract The gastrointestinal (GI) barrier is a highly coordinated, multilayered defence system that maintains intestinal homeostasis by separating the luminal microbiota from the internal milieu. In liver cirrhosis, this barrier undergoes profound structural and functional disruption, emerging as a central driver of bacterial translocation [...] [Read more.](#)

(This article belongs to the Special Issue [State-of-the-Art Hepatic and Gastrointestinal Diseases in Germany \(2nd Edition\) \(/journal/biomedicines/special_issues/996RW5I657\)](#))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01084/article_deploy/html/images/biomedicines-14-01084-ag-550.jpg?1778549889) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01084/article_deploy/html/images/biomedicines-14-01084-g001-550.jpg?1778549885) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01084/article_deploy/html/images/biomedicines-14-01084-g002-550.jpg?1778549888) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01084/article_deploy/html/images/biomedicines-14-01084-g003-550.jpg?1778549889)

Adipose Stem Cell-Derived Apoptotic Vesicles Attenuate Hypertrophic Scarring by Targeting the CDC20/WNT Signaling Pathway [\(2227-9059/14/5/1083\)](#)

by Mengyuan Jiang, Liying Cheng, Xiyuan Mao and Lu Zhang

Biomedicines **2026**, *14*(5), 1083; <https://doi.org/10.3390/biomedicines14051083> (<https://doi.org/10.3390/biomedicines14051083>) - 11 May 2026

Viewed by 651

Abstract Background: Apoptotic vesicles (ApoVs) derived from adipose stem cells (ASCs) have recently emerged as important mediators of tissue repair and are implicated in pathways relevant to hypertrophic scar (HS). Although ASCs exhibit potential in scar modulation, the therapeutic value of their apoptotic [...] **Read more.**

(This article belongs to the Special Issue **Wound Healing: From Mechanisms to Therapeutic Approaches (2nd Edition)** (/journal/biomedicines/special_issues/DXD597DC7K))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01083/article_deploy/html/images/biomedicines-14-01083-g001-550.jpg?1779429327) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01083/article_deploy/html/images/biomedicines-14-01083-g002-550.jpg?1779429332) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01083/article_deploy/html/images/biomedicines-14-01083-g003-550.jpg?1779429337) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01083/article_deploy/html/images/biomedicines-14-01083-g004-550.jpg?1779429342) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01083/article_deploy/html/images/biomedicines-14-01083-g005-550.jpg?1779429346) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01083/article_deploy/html/images/biomedicines-14-01083-g006-550.jpg?1779429352) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01083/article_deploy/html/images/biomedicines-14-01083-g007-550.jpg?1779429355)

Diagnosis and Management of Sarcoidosis-like Reaction in Adjuvant Immunotherapy: A Comprehensive Review and Clinical Implications [\(2227-9059/14/5/1082\)](#)

by Matthew Lee, Qi Cai and Jue Wang

Biomedicines **2026**, *14*(5), 1082; <https://doi.org/10.3390/biomedicines14051082> (<https://doi.org/10.3390/biomedicines14051082>) - 10 May 2026

Viewed by 846

Abstract Immune checkpoint inhibitors (ICIs) have transformed oncologic care and are increasingly used as adjuvant therapy to reduce the risk of recurrence. However, this shift has introduced immune-related adverse events (irAEs) to patients who may otherwise be clinically disease-free after definitive therapy. Sarcoidosis-like reaction [...] **Read more.**

(This article belongs to the Special Issue **Advanced Research on Genitourinary Cancer** (/journal/biomedicines/special_issues/EUVD0AR7ZT))

► [Show Figures](#)

MDPI (l)
(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01082/article_deploy/html/images/biomedicines-14-01082-g001-550.jpg?1778668418) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01082/article_deploy/html/images/biomedicines-14-01082-g002-550.jpg?1778668422) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01082/article_deploy/html/images/biomedicines-14-01082-g003-550.jpg?1778668424)

Open Access Article 19 pages, 12988 KB [\(/2227-9059/14/5/1076/pdf?version=1779793190\)](https://doi.org/10.3390/biomedicines14051076/pdf?version=1779793190) 

Revealing the Potential Associations of Mutation-Related Genes with Lymph Node Metastasis in Gallbladder Cancer Through Transcriptome and Exome Sequencing [\(/2227-9059/14/5/1076\)](https://doi.org/10.3390/biomedicines14051076)

by Qi Li, Qingyu Tang, Dong Xue, Hengchao Liu, Zhenqi Tang, Dong Zhang, Chen Chen and Zhimin Geng

Biomedicines **2026**, *14*(5), 1076; <https://doi.org/10.3390/biomedicines14051076> (<https://doi.org/10.3390/biomedicines14051076>) - 10 May 2026

Viewed by 791

Abstract Background/Objectives: Gallbladder cancer (GBC) is an aggressive biliary tract malignancy with poor prognosis. Lymph node metastasis is a major determinant of adverse outcome in patients with GBC. Gene mutations play an essential role in tumorigenesis; however, it remains uncertain whether genetic mutations [...] **Read more.**

(This article belongs to the Special Issue **Advances in Pathogenesis and Therapeutics of Gastrointestinal Diseases** ([/journal/biomedicines/special_issues/18ARENUU9J](https://www.mdpi.com/journal/biomedicines/special_issues/18ARENUU9J)))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01076/article_deploy/html/images/biomedicines-14-01076-g001-550.jpg?1779793323) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01076/article_deploy/html/images/biomedicines-14-01076-g002-550.jpg?1779793327) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01076/article_deploy/html/images/biomedicines-14-01076-g003-550.jpg?1779793330) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01076/article_deploy/html/images/biomedicines-14-01076-g004-550.jpg?1779793332) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01076/article_deploy/html/images/biomedicines-14-01076-g005-550.jpg?1779793334) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01076/article_deploy/html/images/biomedicines-14-01076-g006-550.jpg?1779793337)

Open Access Article 20 pages, 1524 KB [\(/2227-9059/14/5/1081/pdf?version=1779170202\)](https://doi.org/10.3390/biomedicines14051081/pdf?version=1779170202)

Comparing the Effects of Glyphosate and Mycotoxins in the Human Follicular Microenvironment: An Exploratory Exposome Study [\(/2227-9059/14/5/1081\)](https://doi.org/10.3390/biomedicines14051081)

by Apolka Szentirmay, Márkó Uniczovics, Eszter Ruff, Bernadett Csókay, Katalin Sára-Popovics, Dóra Holéci, Tímea Buzder, Miklós Sipos, Attila Martonos, Attila Sajgó, Natália Szeőcs, György Nagyéri, Levente Sára and Zsuzsanna Szőke

Abstract Background: Exposure to anthropogenic and/or natural (e.g., herbicides or mycotoxins) endocrine-disrupting chemicals (EDCs) has been linked to several reproductive disorders. Glyphosate (GLY), a common agricultural agent, is a potential element of the exposome that bioaccumulates and has potential endocrine and oxidative stress-related [...] **Read more.**

(This article belongs to the Section **Drug Discovery, Development and Delivery** (/journal/biomedicines/sections/Drug_Discovery))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01081/article_deploy/html/images/biomedicines-14-01081-ag-550.jpg?1779170378) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01081/article_deploy/html/images/biomedicines-14-01081-g001-550.jpg?1779170363) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01081/article_deploy/html/images/biomedicines-14-01081-g002-550.jpg?1779170366) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01081/article_deploy/html/images/biomedicines-14-01081-g003-550.jpg?1779170368) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01081/article_deploy/html/images/biomedicines-14-01081-g004-550.jpg?1779170370) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01081/article_deploy/html/images/biomedicines-14-01081-g005-550.jpg?1779170373) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01081/article_deploy/html/images/biomedicines-14-01081-g006-550.jpg?1779170375) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01081/article_deploy/html/images/biomedicines-14-01081-g0A1-550.jpg?1779170377)

Open Access Article 11 pages, 240 KB [\(/2227-9059/14/5/1080/pdf?version=1778557835\)](/2227-9059/14/5/1080/pdf?version=1778557835) 

Quantifying the Silent Selection Pressure: Antimicrobial Stewardship and Gut Microbiome Integrity in the NICU and PICU (</2227-9059/14/5/1080>)

by Fauna Herawati, Faathimah Az'zahra, Maria Anggeraini, Nur Palestin Ayumuyas, Kevin Kantono, Eko Setiawan and Rika Yulia

Biomedicines 2026, 14(5), 1080; <https://doi.org/10.3390/biomedicines14051080> (<https://doi.org/10.3390/biomedicines14051080>) - 9 May 2026

Abstract Background: Antimicrobial stewardship in Neonatal (NICU) and Pediatric Intensive Care Units (PICUs) is complicated by rapid physiological maturation and the high vulnerability of the developing gut microbiome. Traditional metrics fails to capture the true utilization density of antibiotics in these settings. This [...] **Read more.**

(This article belongs to the Special Issue **Drug-Resistant Bacterial Infections and Alternative Therapies—2nd Edition** (/journal/biomedicines/special_issues/E627R522S4))

VeritaCell-Derived Autologous Skin Cell Suspensions Enhance Wound Closure Dynamics and Tissue Architecture in a Rat Excisional Wound Model [\(/2227-9059/14/5/1079\)](#)

by Michael Peake, Olafs Volrāts, Vladimirs Pilipenko, Jolanta Ūpīte, Arseniy Sergeyev, Baiba Jansone and Nikolaos T. Georgopoulos

Biomedicines **2026**, *14*(5), 1079; <https://doi.org/10.3390/biomedicines14051079> (<https://doi.org/10.3390/biomedicines14051079>) - 9 May 2026

Viewed by 810

Abstract Background/Objectives: Autologous cell suspension (ACS)-based therapy is a promising strategy to enhance wound healing, yet limitations in current methodologies hinder clinical efficacy. We have previously developed VeritaCell, a rapid isolation method that yields highly viable skin cell populations, including epidermal stem cells, [...] **Read more.**

(This article belongs to the Special Issue **Advanced Research in Cell and Tissue Engineering** ([/journal/biomedicines/special_issues/KA3S070FW3](#)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01079/article_deploy/html/images/biomedicines-14-01079-g001-550.jpg?1778330978) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01079/article_deploy/html/images/biomedicines-14-01079-g002-550.jpg?1778330980) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01079/article_deploy/html/images/biomedicines-14-01079-g003-550.jpg?1778330983) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01079/article_deploy/html/images/biomedicines-14-01079-g004-550.jpg?1778330985) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01079/article_deploy/html/images/biomedicines-14-01079-g005-550.jpg?1778330988) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01079/article_deploy/html/images/biomedicines-14-01079-g006-550.jpg?1778330991)

New Insights into the Antimicrobial and Wound-Healing Properties of Turmeric-Powder-Derived *Curcuma longa* Extracts for Oral-Health-Oriented Applications [\(/2227-9059/14/5/1078\)](#)

by Dana-Emanuela Pitic (Coț), Andreea Kiș, Ciprian Stroia, Ioana-Cristina Talpoș-Niculescu, Ramona-Amina Popovici, Codruța-Eliza Ilie, Alfred Mark Sallai, Alina Anton, Elena-Alina Moacă, Emilia Daliana Muntean and Maria Suciu

Biomedicines **2026**, *14*(5), 1078; <https://doi.org/10.3390/biomedicines14051078> (<https://doi.org/10.3390/biomedicines14051078>) - 9 May 2026

Viewed by 859

Abstract Background/Objectives: *Curcuma longa* is widely recognized for its antioxidant, antimicrobial, and wound-related biological effects. The present study aimed to compare two extracts prepared from organic turmeric powder (*Curcuma longa*), using distilled water (CUR-H₂O) and 96% ethanol (CUR-EtOH), in [...] **Read more.**

(This article belongs to the Section **Microbiology in Human Health and Disease** ([/journal/](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01078/article_deploy/html/images/biomedicines-14-01078-g001-550.jpg?1779260860) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01078/article_deploy/html/images/biomedicines-14-01078-g002-550.jpg?1779260861) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01078/article_deploy/html/images/biomedicines-14-01078-g003-550.jpg?1779260862) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01078/article_deploy/html/images/biomedicines-14-01078-g004-550.jpg?1779260865) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01078/article_deploy/html/images/biomedicines-14-01078-g005-550.jpg?1779260866)

Open Access Article 17 pages, 18244 KB [\(/2227-9059/14/5/1077/pdf?version=1778317238\)](https://doi.org/10.3390/biomedicines14051077/pdf?version=1778317238)

4-Hexylresorcinol Attenuates Ethanol-Induced Hepatic and Pancreatic Injury by Modulating Metabolic Dysfunction and Endoplasmic Reticulum Stress (/2227-9059/14/5/1077)

by Horațiu Rotar, Soon-Young Kang, Hyun-Seung Kim, Seung-Ki Hong, Yoon-Jo Lee, Ji-Hyeon Oh, Suyeon Park, Jongho Choi, Xiangguo Che, Seong-Gon Kim and Je-Yong Choi

Biomedicines **2026**, *14*(5), 1077; <https://doi.org/10.3390/biomedicines14051077> (<https://doi.org/10.3390/biomedicines14051077>) - 9 May 2026

Viewed by 774

Abstract Background/Objectives: Chronic ethanol (EtOH) consumption is a major cause of metabolic dysfunction and multi-organ injury, particularly in the liver and pancreas. Because oxidative stress and endoplasmic reticulum (ER) stress are central mechanisms in both organs, this study evaluated the protective efficacy of [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine (/journal/biomedicines/sections/medicine)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01077/article_deploy/html/images/biomedicines-14-01077-g001-550.jpg?1778317319) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01077/article_deploy/html/images/biomedicines-14-01077-g002-550.jpg?1778317319) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01077/article_deploy/html/images/biomedicines-14-01077-g003-550.jpg?1778317320) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01077/article_deploy/html/images/biomedicines-14-01077-g004-550.jpg?1778317321) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01077/article_deploy/html/images/biomedicines-14-01077-g005-550.jpg?1778317321) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01077/article_deploy/html/images/biomedicines-14-01077-g006-550.jpg?1778317321)

PGAM2 Regulates Sepsis-Induced Diaphragmatic Atrophy via the JAK2/STAT3 Pathway [\(/2227-9059/14/5/1075\)](#)

by Yun Chu, Xinrun Yuan, Xiaopo Gao and Jinlong Luo

Biomedicines **2026**, *14*(5), 1075; <https://doi.org/10.3390/biomedicines14051075> (<https://doi.org/10.3390/biomedicines14051075>) - 9 May 2026

Viewed by 760

Abstract Background/Objectives: Sepsis-induced systemic inflammation often leads to diaphragmatic dysfunction and muscle atrophy, contributing to impaired respiratory function. Phosphoglycerate mutase 2 (PGAM2), a key enzyme in glycolysis, plays a significant role in muscle energy metabolism but has not been previously linked to sepsis-induced [...] **Read more.**

(This article belongs to the Section [Cell Biology and Pathology](#) ([/journal/biomedicines/sections/cell_pathology](#)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01075/article_deploy/html/images/biomedicines-14-01075-g001-550.jpg?1778312019) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01075/article_deploy/html/images/biomedicines-14-01075-g002-550.jpg?1778312022) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01075/article_deploy/html/images/biomedicines-14-01075-g003-550.jpg?1778312025) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01075/article_deploy/html/images/biomedicines-14-01075-g004-550.jpg?1778312028) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01075/article_deploy/html/images/biomedicines-14-01075-g005-550.jpg?1778312029) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01075/article_deploy/html/images/biomedicines-14-01075-g006-550.jpg?1778312030)

Inflammatory and Endothelial Dysfunction Biomarkers Predict Severe COVID-19 in Hospitalized Patients: Development of the CCBR Model [\(/2227-9059/14/5/1074\)](#)

by Sebastian Ciobanu, Aida-Isabela Adamescu, Cătălin Tilișcan, Andreea Mihaela Radu, Bogdan Popescu, Andrei Bogdan Văcărașu, Adrian Gabriel Marinescu, Victoria Aramă and Ștefan Sorin Aramă

Biomedicines **2026**, *14*(5), 1074; <https://doi.org/10.3390/biomedicines14051074> (<https://doi.org/10.3390/biomedicines14051074>) - 8 May 2026

Viewed by 900

Abstract Background: Early identification of patients at risk of severe COVID-19 is critical for timely interventions. We evaluated a biomarker-based risk stratification model, the Composite COVID-19 Biomarker Risk (CCBR) score, integrating age and inflammatory biomarkers (IL-6, PAI-1, LDH, neutrophil-to-lymphocyte ratio [NLR], and ferritin) [...] **Read more.**

(This article belongs to the Special Issue [Pathogenesis, Diagnosis and Treatment of Infectious Diseases \(2nd Edition\)](#) ([/journal/biomedicines/special_issues/X90O5CM808](#)))

► [Show Figures](#)

MDPI (1)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01074/article_deploy/html/images/biomedicines-14-01074-g001-550.jpg?1778248941) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01074/article_deploy/html/images/biomedicines-14-01074-g002-550.jpg?1778248942) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01074/article_deploy/html/images/biomedicines-14-01074-g003-550.jpg?1778248943)

Open Access Review

51 pages, 1917 KB

(/2227-9059/14/5/1073/pdf?version=1779421629)

Neuroimmune Regulation of Microvascular Inflammation: The Heart–Brain Axis, Mast Cells, and the Protective Role of Flavonoids—A Comprehensive Review (/2227-9059/14/5/1073)

by Paraskevi Papadopoulou and Theoharis C. Theoharides

Biomedicines **2026**, *14*(5), 1073; <https://doi.org/10.3390/biomedicines14051073> (<https://doi.org/10.3390/biomedicines14051073>) - 8 May 2026

Viewed by 1676

Abstract Background/Objectives: Cardiovascular disease (CVD), particularly coronary artery disease (CAD), is increasingly linked to microvascular inflammation driven by interactions between immune, vascular, and neuroendocrine systems. Mast cells (MCs), strategically positioned near blood vessels, play pivotal roles in this process through the release of [...] **Read more.**

(This article belongs to the Special Issue **Advances in Heart–Brain Axis (/journal/biomedicines/special_issues/91251S06W3)**)

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01073/article_deploy/html/images/biomedicines-14-01073-ag-550.jpg?1779421713) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01073/article_deploy/html/images/biomedicines-14-01073-g001-550.jpg?1779421708) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01073/article_deploy/html/images/biomedicines-14-01073-g002-550.jpg?1779421710) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01073/article_deploy/html/images/biomedicines-14-01073-g003-550.jpg?1779421711) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01073/article_deploy/html/images/biomedicines-14-01073-g004-550.jpg?1779421713)

Open Access Article

20 pages, 5068 KB

(/2227-9059/14/5/1072/pdf?version=1778241692)

A Cross-Tissue Transcriptome-Wide Association Study Identifies Novel Susceptibility Genes for Glomerular Diseases (/2227-9059/14/5/1072)

by Lichao Mao, Linhong Xu, Tong Zhu, Xintong Liu and Zehua Li

Biomedicines **2026**, *14*(5), 1072; <https://doi.org/10.3390/biomedicines14051072> (<https://doi.org/10.3390/biomedicines14051072>) - 8 May 2026

Viewed by 1016

Abstract Background/Objectives: Glomerular diseases (GD) possess strong polygenic susceptibility, yet exact causal genes remain unclear because most variants identified by genome-wide association

studies (GWAS) reside in non-coding regions. While transcriptome-wide association studies (TWAS) effectively decode complex traits, cross-tissue profiling for GD remains largely [...] **Read more.** (This article belongs to the Special Issue **Genetic and Epigenetic Research on Kidney Diseases** (/journal/biomedicines/special_issues/9Z5Q3RDU58))  (/toggle_desktop_layout_cookie)  

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01072/article_deploy/html/images/biomedicines-14-01072-ag-550.jpg?1778316121) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01072/article_deploy/html/images/biomedicines-14-01072-g001-550.jpg?1778241802) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01072/article_deploy/html/images/biomedicines-14-01072-g002-550.jpg?1778241802) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01072/article_deploy/html/images/biomedicines-14-01072-g003-550.jpg?1778241803) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01072/article_deploy/html/images/biomedicines-14-01072-g004-550.jpg?1778241804)

Open Access Article

13 pages, 3129 KB

(/2227-9059/14/5/1071/pdf?version=1778239895)

Simvastatin Attenuates Doxorubicin-Induced Inflammation in Human Cardiomyocytes (/2227-9059/14/5/1071)

by Roberta Vitale, Rosaria Margherita Rispoli, Maria Carmela Di Marcantonio, Barbara Pala, Stefania Marzocco, Gabriella Mincione and Ada Popolo

Biomedicines **2026**, *14*(5), 1071; <https://doi.org/10.3390/biomedicines14051071> (<https://doi.org/10.3390/biomedicines14051071>) - 8 May 2026

Viewed by 913

Abstract Background/Objectives: Clinical application of Doxorubicin (Doxo) is limited by cardiotoxicity, a process strongly associated with an interplay between oxidative stress and inflammatory signaling, particularly Nuclear Factor kappa-light-chain-enhancer of activated B cells (NF-κB) activation and Nucleotide oligomerization domain-like receptor family, pyrin domain containing [...] **Read more.**

(This article belongs to the Special Issue **Acute and Chronic Heart Failure: Pathophysiology and New Therapeutic Developments, 3rd Edition** (/journal/biomedicines/special_issues/E85X6ZQAL9))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01071/article_deploy/html/images/biomedicines-14-01071-g001-550.jpg?1778239962) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01071/article_deploy/html/images/biomedicines-14-01071-g002-550.jpg?1778239964) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01071/article_deploy/html/images/biomedicines-14-01071-g003-550.jpg?1778239966) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01071/article_deploy/html/images/biomedicines-14-01071-g004-550.jpg?1778239968)

Ubiquitylation and Deubiquitylation in Health and Diseases (/2227-9059/14/5/1070)

by **Tadashi Nakagawa**

 [\(/toggle_desktop_layout_cookie\)](#)  

Biomedicines **2026**, *14*(5), 1070; <https://doi.org/10.3390/biomedicines14051070> ([https://](https://doi.org/10.3390/biomedicines14051070)

doi.org/10.3390/biomedicines14051070) - 8 May 2026

Viewed by 725

Abstract Protein ubiquitylation plays fundamental roles in virtually every aspect of eukaryotic cellular function by regulating the stability and activity of target proteins [...] **Full article (/2227-9059/14/5/1070)**
(This article belongs to the Special Issue **Ubiquitylation and Deubiquitylation in Health and Diseases (/journal/biomedicines/special_issues/01B2CQ66BS)**)

► **Show Figures**

https://pub.mdpi-res.com/biomedicines/biomedicines-14-01070/article_deploy/html/images/biomedicines-14-01070-g001-550.jpg?1778233456

RNA-Loaded Nanoparticles for Targeted Lung Delivery (/2227-9059/14/5/1069)

by **Mark John Siringan, Xiaoyang Chen and Jiawei Huo**

Biomedicines **2026**, *14*(5), 1069; <https://doi.org/10.3390/biomedicines14051069> ([https://](https://doi.org/10.3390/biomedicines14051069)

doi.org/10.3390/biomedicines14051069) - 8 May 2026

Viewed by 1188

Abstract The lung represents a promising yet underexploited target for RNA therapeutics due to its large surface area and accessibility via non-invasive inhalation delivery. Despite rapid advances in RNA-based modalities, including small interfering RNA (siRNA), microRNA (miRNA), messenger RNA (mRNA), and CRISPR-Cas systems, efficient [...] **Read more.**

(This article belongs to the Special Issue **Drug Delivery and Nanocarrier (/journal/biomedicines/special_issues/S0PX7474Y7)**)

► **Show Figures**

https://pub.mdpi-res.com/biomedicines/biomedicines-14-01069/article_deploy/html/images/biomedicines-14-01069-g001-550.jpg?1778226345) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01069/article_deploy/html/images/biomedicines-14-01069-g002-550.jpg?1778226346) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01069/article_deploy/html/images/biomedicines-14-01069-g003-550.jpg?1778226347) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01069/article_deploy/html/images/biomedicines-14-01069-g004-550.jpg?1778226352) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01069/article_deploy/html/images/biomedicines-14-01069-g005-550.jpg?1778226353)

Crohn's Disease and Ulcerative Colitis: From Pathophysiology to Novel Therapeutic Approaches (3rd Edition) (/2227-9059/14/5/1068)

by  Dingpei Long and Junsik J. Sung

Biomedicines **2026**, *14*(5), 1068; <https://doi.org/10.3390/biomedicines14051068> (<https://doi.org/10.3390/biomedicines14051068>) - 8 May 2026

Viewed by 944

 [\(/toggle_desktop_layout_cookie\)](#)  

Abstract The first editorial in this series approached inflammatory bowel disease (IBD) predominantly from the perspective of pathophysiology and therapeutic innovation [...] **Full article**

(/2227-9059/14/5/1068)

(This article belongs to the Special Issue **Crohn's Disease and Ulcerative Colitis: From Pathophysiology to Novel Therapeutic Approaches (3rd Edition)** (/journal/biomedicines/special_issues/FPW7F39XR7))

Open Access Article

18 pages, 6031 KB

[\(/2227-9059/14/5/1067/pdf?version=1778218759\)](/2227-9059/14/5/1067/pdf?version=1778218759) 

Guideline-Directed Medical Therapy Intensity, Ventricular Remodeling, and Clinical Outcomes After Acute Myocardial Infarction: A Single-Center Real-World Retrospective Cohort Study (/2227-9059/14/5/1067)

by Teodora Mateoc-Sîrb, Ioana-Maria Suciu, Dan Gaiță, Andor Minodora, Roxana Popescu, Tania Vlad, Călin Muntean and Daliborca-Cristina Vlad

Biomedicines **2026**, *14*(5), 1067; <https://doi.org/10.3390/biomedicines14051067> (<https://doi.org/10.3390/biomedicines14051067>) - 8 May 2026

Viewed by 753

Abstract Background: Guideline-directed medical therapy (GDMT) is recommended after acute myocardial infarction (AMI), particularly in patients with left ventricular systolic dysfunction, yet real-world implementation remains suboptimal. Whether greater early GDMT intensity is associated with post-infarction ventricular remodeling has not been fully established. We aimed [...] **Read more.**

(This article belongs to the Special Issue **Heart Failure: New Diagnostic and Therapeutic Approaches, 2nd Edition** (/journal/biomedicines/special_issues/GSV1239W54))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01067/article_deploy/html/images/biomedicines-14-01067-g001-550.jpg?1778218839) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01067/article_deploy/html/images/biomedicines-14-01067-g002-550.jpg?1778218841) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01067/article_deploy/html/images/biomedicines-14-01067-g003-550.jpg?1778218844) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01067/article_deploy/html/images/biomedicines-14-01067-g004-550.jpg?1778218845) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01067/article_deploy/html/images/biomedicines-14-01067-g005-550.jpg?1778218847) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01067/article_deploy/html/images/biomedicines-14-01067-g006-550.jpg?1778218849) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01067/article_deploy/html/images/biomedicines-14-01067-g007-550.jpg?1778218850) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01067/article_deploy/html/images/biomedicines-14-01067-g008-550.jpg?1778218851)

Age-Dependent Inflammatory, Lipid, and Echocardiographic Phenotypes in Acute Myocardial Infarction: Associations with In-Hospital Adverse Clinical Events (/2227-9059/14/5/1066)

by Bogdan-Sorin Tudurachi, Larisa Anghel, Andreea Tudurachi, Radu Andy Sascău, Cristian Stătescu, Mircea Ovanetz Balasanian, Nicoleta Dubei and Delia Șalaru

Biomedicines **2026**, *14*(5), 1066; <https://doi.org/10.3390/biomedicines14051066> (<https://doi.org/10.3390/biomedicines14051066>) - 8 May 2026

Viewed by 806

Abstract Background: Acute myocardial infarction (AMI) in younger adults represents a distinct clinical entity with biological features that may differ from those observed in later-onset disease. We aimed to characterize age-dependent clinical, inflammatory, lipid, and echocardiographic phenotypes and to explore their association with in-hospital [...] **Read more.**

(This article belongs to the Special Issue **Molecular and Cellular Mechanisms of Cardiovascular Diseases: 2nd Edition** (/journal/biomedicines/special_issues/Z98571KC3C))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01066/article_deploy/html/images/biomedicines-14-01066-g001-550.jpg?1778214259) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01066/article_deploy/html/images/biomedicines-14-01066-g002-550.jpg?1778214260) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01066/article_deploy/html/images/biomedicines-14-01066-g003-550.jpg?1778214263) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01066/article_deploy/html/images/biomedicines-14-01066-g004-550.jpg?1778214266)

From Gut Homeostasis to Colorectal Cancer: Spatial and Temporal Reprogramming of Microbial Inosine Signaling (/2227-9059/14/5/1065)

by Lorenzo Tomassini, Teresa Pacifico, Giovanni Monteleone, Carmine Stolfi and Federica Laudisi

Biomedicines **2026**, *14*(5), 1065; <https://doi.org/10.3390/biomedicines14051065> (<https://doi.org/10.3390/biomedicines14051065>) - 7 May 2026

Cited by 1 (/2227-9059/14/5/1065#metrics) | Viewed by 633

Abstract Microbial metabolites are increasingly recognized as critical regulators of gut homeostasis, mediating the interaction among gut microbiota, host tissue, and immune response. Among them, inosine, which was previously considered just a byproduct of the adenosine catabolism, was recently discovered as an important bioactive [...] **Read more.**

(This article belongs to the Special Issue **Microbial Metabolites and Their Impact on Gut Homeostasis** (/journal/biomedicines/special_issues/W263XZ7F6H))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01065/article_deploy/html/images/

 [biomedicines-14-01065-g001-550.jpg?1778666963](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01065-g001-550.jpg?1778666963)) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01065/article_deploy/html/images/biomedicines-14-01065-g002-550.jpg?1778666963) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01065/article_deploy/html/images/biomedicines-14-01065-g003-550.jpg?1778666964)

Open Access Article 14 pages, 1041 KB [\(/2227-9059/14/5/1064/pdf?version=1778163023\)](https://doi.org/10.3390/biomedicines14051064/pdf?version=1778163023)

Mitochondrial Function Under Combined Oral Contraceptive Exposure in a Neuroblastoma Model: A Preliminary Investigation ([/2227-9059/14/5/1064](https://doi.org/10.3390/biomedicines14051064))

by **Francesco Chiara, Sarah Allegra, Francesco Maximillian Anthony Shelton Agar, Giuliana Abbadessa and Silvia De Francia**

Biomedicines **2026**, *14*(5), 1064; <https://doi.org/10.3390/biomedicines14051064> (<https://doi.org/10.3390/biomedicines14051064>) - 7 May 2026

Viewed by 555

Abstract Background: Endogenous estradiol/progesterone (E2/P4) regulates neuronal mitochondrial bioenergetics and redox balance. However, the effects of combined oral contraceptive (COC) steroids under physiologically relevant hormonal conditions remain poorly understood. Therefore, this study aims to investigate how COC steroids modulate mitochondrial function within the defined [...] [Read more.](#) (This article belongs to the Section [Neurobiology and Clinical Neuroscience](#) ([/journal/biomedicines/sections/neuro](#)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01064/article_deploy/html/images/biomedicines-14-01064-g001a-550.jpg?1778163120) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01064/article_deploy/html/images/biomedicines-14-01064-g001b-550.jpg?1778163121) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01064/article_deploy/html/images/biomedicines-14-01064-g002-550.jpg?1778163123) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01064/article_deploy/html/images/biomedicines-14-01064-g003-550.jpg?1778163124)

Open Access Review 21 pages, 14385 KB [\(/2227-9059/14/5/1063/pdf?version=1778761508\)](https://doi.org/10.3390/biomedicines14051063/pdf?version=1778761508)

The Coronary Venous System in Acute Coronary Syndrome: A Narrative Review ([/2227-9059/14/5/1063](https://doi.org/10.3390/biomedicines14051063))

by **Ercan Akşit, Cengiz Demir, Uğur Özpinar and Esra Duman Acar**

Biomedicines **2026**, *14*(5), 1063; <https://doi.org/10.3390/biomedicines14051063> (<https://doi.org/10.3390/biomedicines14051063>) - 7 May 2026

Viewed by 580

Abstract Acute coronary syndrome (ACS) remains a leading cause of death and morbidity worldwide. The pathophysiology of ACS has been largely interpreted through abnormalities of the coronary arteries and the microvascular bed. However, the coronary circulation is fundamentally a closed-loop system, in which the [...] [Read more.](#)

(This article belongs to the Special Issue [Exploring Acute Coronary Syndrome: Insights from Basic](#)

MDPI (I)
► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01063/article_deploy/html/images/biomedicines-14-01063-g001-550.jpg?1778761615) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01063/article_deploy/html/images/biomedicines-14-01063-g002-550.jpg?1778761616) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01063/article_deploy/html/images/biomedicines-14-01063-g003-550.jpg?1778761616) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01063/article_deploy/html/images/biomedicines-14-01063-g004-550.jpg?1778761617) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01063/article_deploy/html/images/biomedicines-14-01063-g005-550.jpg?1778761617) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01063/article_deploy/html/images/biomedicines-14-01063-g006-550.jpg?1778761620) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01063/article_deploy/html/images/biomedicines-14-01063-g007-550.jpg?1778761621)

Open Access Article 26 pages, 59559 KB (/2227-9059/14/5/1062/pdf?version=1778153188)

Integrative Multi-Omics and Pan-Cancer Analyses Identify CCL20 as a Prognostic Biomarker with Therapeutic Relevance in Esophageal Cancer (/2227-9059/14/5/1062)

by Shixiang Guo, Xiaoyu Chen, Mingfeng Wei, Fuzhi Yang, Shuai Jiang, Liting Zhao, Lefei Hu, Zheng Li and Xiaoyong Shen

Biomedicines **2026**, *14*(5), 1062; <https://doi.org/10.3390/biomedicines14051062> (<https://doi.org/10.3390/biomedicines14051062>) - 7 May 2026

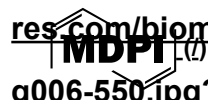
Viewed by 777

Abstract Background: CCL20 is a key chemokine involved in tumor-associated inflammation and immune microenvironment remodeling, but its biological and clinical relevance in esophageal cancer (ESCA) and across cancers remains incompletely defined. This study aimed to systematically characterize the expression pattern, prognostic value, immune [...] **Read more.**

(This article belongs to the Special Issue **Drug Resistance and Novel Targets for Cancer Therapy—Third Edition (/journal/biomedicines/special_issues/6682CGZ0E7)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01062/article_deploy/html/images/biomedicines-14-01062-g001-550.jpg?1778153256) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01062/article_deploy/html/images/biomedicines-14-01062-g002-550.jpg?1778153257) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01062/article_deploy/html/images/biomedicines-14-01062-g003-550.jpg?1778153261) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01062/article_deploy/html/images/biomedicines-14-01062-g004-550.jpg?1778153265) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01062/article_deploy/html/images/biomedicines-14-01062-g005-550.jpg?1778153268) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01062/article_deploy/html/images/biomedicines-14-01062-g006-550.jpg?1778153269)

 [res.com/biomedicines/biomedicines-14-01062/article_deploy/html/images/biomedicines-14-01062-g006-550.jpg?1778153269](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01062/article_deploy/html/images/biomedicines-14-01062-g006-550.jpg?1778153269) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01062/article_deploy/html/images/biomedicines-14-01062-g007-550.jpg?1778153274) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01062/article_deploy/html/images/biomedicines-14-01062-g008-550.jpg?1778153278) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01062/article_deploy/html/images/biomedicines-14-01062-g009-550.jpg?1778153282)

Open Access Article

19 pages, 1515 KB

[\(/2227-9059/14/5/1061/pdf?version=1778149073\)](https://doi.org/10.3390/biomedicines14051061/pdf?version=1778149073)

Comparative Outcomes of Lumbar Platelet-Rich Plasma Injection Versus Conservative Treatment for Chronic Discogenic and/or Radicular Pain: A Retrospective Cohort Study **(/2227-9059/14/5/1061)**

by Wen-Yuan Lee, Hao-Yuan Lee, Shu-Hua Ko, Po-Fan Chiu, Meng-Yen Li, Yu-Ling Huang and Chyi-Liang Chen

Biomedicines **2026**, *14*(5), 1061; <https://doi.org/10.3390/biomedicines14051061> (<https://doi.org/10.3390/biomedicines14051061>) - 7 May 2026

Viewed by 1104

Abstract Background/Objectives: Few previous studies have evaluated both radiological changes and the clinical effectiveness of platelet-rich plasma (PRP) injections, a biomedical therapy, in patients with chronic discogenic and/or radicular low back pain. **Methods:** This retrospective comparative cohort study reviewed patients with chronic [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** ([/journal/biomedicines/sections/medicine](https://journal.biomedicines.com/sections/medicine)))

► **Show Figures**

https://pub.mdpi-res.com/biomedicines/biomedicines-14-01061/article_deploy/html/images/biomedicines-14-01061-ag-550.jpg?1778149258) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01061/article_deploy/html/images/biomedicines-14-01061-g001-550.jpg?1778149244) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01061/article_deploy/html/images/biomedicines-14-01061-g002-550.jpg?1778149246) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01061/article_deploy/html/images/biomedicines-14-01061-g003-550.jpg?1778149248) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01061/article_deploy/html/images/biomedicines-14-01061-g004-550.jpg?1778149253)

Open Access Review

23 pages, 2013 KB

[\(/2227-9059/14/5/1060/pdf?version=1778147788\)](https://doi.org/10.3390/biomedicines14051060/pdf?version=1778147788)

Mucosal Vaccine Development: From Adjuvant Design to Next-Generation Delivery Strategies **(/2227-9059/14/5/1060)**

by Wook-Heon Lee and Eunsoo Kim

Biomedicines **2026**, *14*(5), 1060; <https://doi.org/10.3390/biomedicines14051060> (<https://doi.org/10.3390/biomedicines14051060>) - 7 May 2026

Viewed by 1679

Abstract Most infectious pathogens enter the host through mucosal surfaces, yet conventional injectable vaccines primarily induce systemic immunity without eliciting robust secretory immunoglobulin A (SIgA) responses at mucosal sites. The COVID-19 pandemic highlighted this limitation, as intramuscular mRNA vaccines failed to establish durable mucosal [...]. [Read more.](#)  [\(/toggle_desktop_layout_cookie\)](#)  
(This article belongs to the Special Issue [The Pivotal Role of Mucosal Immunity in Health and Disease \(/journal/biomedicines/special_issues/91WKMJ2691\)](#))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01060/article_deploy/html/images/biomedicines-14-01060-g001-550.jpg?1778147878) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01060/article_deploy/html/images/biomedicines-14-01060-g002-550.jpg?1778147882)

Open Access Correction 4 pages, 4323 KB [\(/2227-9059/14/5/1059/pdf?version=1778466791\)](#)

Correction: Lutskevich et al. Comparative Preclinical Analysis of Anti-B7-H3 CAR-T Cells Targeting Neuroblastoma. *Biomedicines* 2025, 13, 2130 (/2227-9059/14/5/1059)

by Dzmitry V. Lutskevich, Alexander N. Meleshko, Valeria M. Stepanova, Dmitri O. Dormeshkin and Yury P. Rubtsov

Biomedicines 2026, 14(5), 1059; <https://doi.org/10.3390/biomedicines14051059> (<https://doi.org/10.3390/biomedicines14051059>) - 7 May 2026

Viewed by 491

Abstract In the original publication [...] [Full article \(/2227-9059/14/5/1059\)](#)

(This article belongs to the Section [Gene and Cell Therapy \(/journal/biomedicines/sections/genetherapy\)](#))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01059/article_deploy/html/images/biomedicines-14-01059-g004-550.jpg?1778466915) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01059/article_deploy/html/images/biomedicines-14-01059-g005-550.jpg?1778466921)

Open Access Review 19 pages, 785 KB [\(/2227-9059/14/5/1058/pdf?version=1778144279\)](#) 

Artificial Intelligence for Prediction and Detection of Atrial Fibrillation from Sinus-Rhythm Electrocardiograms and Ambulatory Monitoring (/2227-9059/14/5/1058)

by Panteleimon Pantelidis, Nikolaos Vythoulkas-Biotis, Athanasios Samaras, Panagiotis Theofilis, Raffaele De Lucia, Polychronis Dilaveris, Theodore G. Papaioannou, Evangelos Oikonomou and Gerasimos Siasos

Biomedicines 2026, 14(5), 1058; <https://doi.org/10.3390/biomedicines14051058> (<https://doi.org/10.3390/biomedicines14051058>) - 7 May 2026

Viewed by 814

Abstract Atrial fibrillation (AF) is a highly prevalent arrhythmia associated with stroke, heart failure and excess mortality. Yet, “silent” AF episodes remain undetected, leading to underestimation of disease

burden. Additionally, paroxysms occur in an “unpredictable” way, and available clinical scores only stratify long-term AF [...] [Read more.](#)

(This article belongs to the Special Issue **Cardiac Arrhythmias: Technological Frontiers, Therapeutic Approaches and Future Directions** ([/journal/biomedicines/special_issues/23229329](#)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01058/article_deploy/html/images/biomedicines-14-01058-ag-550.jpg?1778144421) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01058/article_deploy/html/images/biomedicines-14-01058-g001-550.jpg?1778144421)

Open Access Review 17 pages, 533 KB [\(/2227-9059/14/5/1057/pdf?version=1778142947\)](#)

The Effects of GLP-1 Receptor Agonists on Retinal Microvascular Alterations
([/2227-9059/14/5/1057](#))

by Stamatis Lampsas, Gerasimia-Marina Chardalia, Chrysa Agapitou, Konstantinos Papastamopoulos, Panagiotis Theodossiadis, Gerasimos Siasos, Evangelos Oikonomou, Vaia Lambadiari and Irini Chatziralli

Biomedicines **2026**, *14*(5), 1057; <https://doi.org/10.3390/biomedicines14051057> (<https://doi.org/10.3390/biomedicines14051057>) - 7 May 2026

Viewed by 851

Abstract Glucagon-like peptide-1 receptor agonists (GLP-1RAs) have revolutionized the management of type 2 diabetes mellitus (T2DM) by providing robust glycemic control alongside significant cardioprotective and renoprotective benefits. This review synthesizes current mechanistic, preclinical, and clinical evidence regarding the impact of GLP-1RAs on retinal microvasculature [...] [Read more.](#)
(This article belongs to the Special Issue **Advanced Research on Diabetic Retinopathy** ([/journal/biomedicines/special_issues/3367VPU7T3](#)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01057/article_deploy/html/images/biomedicines-14-01057-g001-550.jpg?1778143065)

Open Access Article 14 pages, 2286 KB [\(/2227-9059/14/5/1056/pdf?version=1778139056\)](#)

Pharmacological Effects of Angiotensin 1–7 on Venous Vascular Tone ([/2227-9059/14/5/1056](#))

by Armond Daci, Hygerta Berisha, Era Rexhbeqaj, Ilir Berisha, Kaltrina Zenuni and Paolo Magni

Biomedicines **2026**, *14*(5), 1056; <https://doi.org/10.3390/biomedicines14051056> (<https://doi.org/10.3390/biomedicines14051056>) - 7 May 2026

Viewed by 572

Abstract Background/Objectives: The ACE2/Ang-(1–7)/Mas receptor axis is a protective, counter-regulatory component of the RAAS that opposes Ang II/AT₁R-mediated vasoconstriction. The present study evaluated the pharmacological effects of Ang-(1–7) in the rat inferior vena cava (IVC), a venous capacitance vessel involved in [...] [Read more.](#)

(This article belongs to the Special Issue **Renin-Angiotensin System in Cardiovascular Biology, 2nd Edition** ([/journal/biomedicines/special_issues/RAS_2nd](#)))

► [Show Figures](#)

MDPI (1)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01056/article_deploy/html/images/biomedicines-14-01056-ag-550.jpg?1778139220) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01056/article_deploy/html/images/biomedicines-14-01056-g001-550.jpg?1778139219) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01056/article_deploy/html/images/biomedicines-14-01056-g002-550.jpg?1778139219) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01056/article_deploy/html/images/biomedicines-14-01056-g003-550.jpg?1778139220) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01056/article_deploy/html/images/biomedicines-14-01056-g004-550.jpg?1778139220)

Open Access Review

18 pages, 1828 KB

(/2227-9059/14/5/1055/pdf?version=1778130642)

From Inflammation to Precision Medicine: Mechanistic Insights into Asthma, COPD, and IPF (/2227-9059/14/5/1055)

by **Najla Ghrairi, Youssef Zied Elhechmi and Soumaya Ben Saad**

Biomedicines **2026**, *14*(5), 1055; <https://doi.org/10.3390/biomedicines14051055> (<https://doi.org/10.3390/biomedicines14051055>) - 7 May 2026

Viewed by 1063

Abstract Asthma, chronic obstructive pulmonary disease (COPD), and idiopathic pulmonary fibrosis (IPF) are major non-communicable respiratory diseases (NCD-RDs) with high morbidity and mortality. Despite distinct clinical features, they share overlapping mechanisms including oxidative stress, epithelial injury, and immune dysregulation. Asthma is mainly driven by [...] **Read more.**

(This article belongs to the Special Issue **Navigating the Complex Landscape of Non-Communicable Respiratory Diseases: Emerging Challenges and Opportunities (/journal/biomedicines/special_issues/94T0Z93EK5)**)

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01055/article_deploy/html/images/biomedicines-14-01055-ag-550.jpg?1778130725) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01055/article_deploy/html/images/biomedicines-14-01055-g001-550.jpg?1778130718) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01055/article_deploy/html/images/biomedicines-14-01055-g002-550.jpg?1778130720) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01055/article_deploy/html/images/biomedicines-14-01055-g003-550.jpg?1778130721) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01055/article_deploy/html/images/biomedicines-14-01055-g004-550.jpg?1778130724)

Open Access Article

19 pages, 1874 KB

(/2227-9059/14/5/1054/pdf?version=1778081890)

Circadian Activity Disruption in Cardiac Remodeling Patients Underlies Autonomic Dysfunction in Heart Failure (/2227-9059/14/5/1054)

by **Natalia Buitrago-Ricaurte, Andre J. Riveros, Rafael González Niño, Liliana Otero,**

Abstract Background: Heart failure (HF) is a complex clinical syndrome that presents significant challenges in diagnosis and treatment. Exploring innovative pathways to better understand the physiopathological mechanisms has led to the concept of cardiac remodeling (CR), which helps elucidate the diversity in clinical manifestations [...][Read more.](#)

(This article belongs to the Special Issue [Advances in Cardiac Remodeling](#) (/journal/biomedicines/special_issues/5TXBAS2O57))

[► Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01054/article_deploy/html/images/biomedicines-14-01054-g001-550.jpg?1778082009) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01054/article_deploy/html/images/biomedicines-14-01054-g002-550.jpg?1778082010) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01054/article_deploy/html/images/biomedicines-14-01054-g003-550.jpg?1778082011) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01054/article_deploy/html/images/biomedicines-14-01054-g004-550.jpg?1778082012)

Open Access Article

11 pages, 1125 KB

[\(/2227-9059/14/5/1053/pdf?version=1778668322\)](/2227-9059/14/5/1053/pdf?version=1778668322)

Aortic Valve Annular Geometry in Athletes Practicing Sports with High Dynamics—A Detailed Three-Dimensional Speckle-Tracking Echocardiographic Investigation from the MAGYAR-Sport Study (</2227-9059/14/5/1053>)

by Attila Nemes, Nóra Ambrus and Csaba Lengyel

Biomedicines **2026**, *14*(5), 1053; <https://doi.org/10.3390/biomedicines14051053> (<https://doi.org/10.3390/biomedicines14051053>) - 6 May 2026

Viewed by 499

Abstract Background. Physiological remodeling resulting from chronic exercise-induced volume and pressure overload is a well-recognized characteristic of the athlete's heart. This study aimed to explore potential changes in three-dimensional speckle-tracking echocardiography-derived aortic valve annular (AVA) dimensions and dynamics in elite athletes engaged in [...][Read more.](#)

(This article belongs to the Section [Molecular and Translational Medicine](#) (</journal/biomedicines/sections/medicine>))

[► Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01053/article_deploy/html/images/biomedicines-14-01053-g001-550.jpg?1778668431) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01053/article_deploy/html/images/biomedicines-14-01053-g002-550.jpg?1778668433)

Open Access Article

12 pages, 1127 KB

[\(/2227-9059/14/5/1052/pdf?version=1778665291\)](/2227-9059/14/5/1052/pdf?version=1778665291)

Predictive Value of Semi-Quantitative GeneXpert Categories for Microbiological Outcomes in Pulmonary Tuberculosis (/2227-9059/14/5/1052)

by Elena Cojocaru, Ioana-Adelina Stoian, Radu-Adrian Crişan-Dabija, Ruxandra Cojocaru, Adriana Ignat and Cristian Cojocaru

 [\(/toggle_desktop_layout_cookie\)](#)  

Biomedicines **2026**, *14*(5), 1052; <https://doi.org/10.3390/biomedicines14051052> (<https://doi.org/10.3390/biomedicines14051052>) - 6 May 2026

Viewed by 542

Abstract Background: Molecular testing has improved pulmonary tuberculosis (PTB) diagnosis, but the clinical interpretation of semi-quantitative GeneXpert results—particularly at low bacillary loads—remains uncertain. **Methods:** This retrospective study included 167 patients with positive GeneXpert results evaluated at a tertiary pneumology hospital between January [...]. **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine (/journal/biomedicines/sections/medicine)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01052/article_deploy/html/images/biomedicines-14-01052-g001-550.jpg?1778665398) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01052/article_deploy/html/images/biomedicines-14-01052-g002-550.jpg?1778665402) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01052/article_deploy/html/images/biomedicines-14-01052-g003-550.jpg?1778665403) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01052/article_deploy/html/images/biomedicines-14-01052-g004-550.jpg?1778665404)

Open Access Article

20 pages, 6165 KB

[\(/2227-9059/14/5/1051/pdf?version=1778060520\)](https://doi.org/10.3390/biomedicines14051051/pdf?version=1778060520) 

Prognostic Impact of ABO/Rh Blood Group–Systemic Inflammation Indices Interactions in Small-Cell Lung Cancer (/2227-9059/14/5/1051)

by Anıl Yıldız, Burak Alper Zengin, Maral Martin Mildanoglu, Bedirhan Ulufer, Ahmet Bilici and Naziye Ak

Biomedicines **2026**, *14*(5), 1051; <https://doi.org/10.3390/biomedicines14051051> (<https://doi.org/10.3390/biomedicines14051051>) - 6 May 2026

Viewed by 720

Abstract Background/Objectives: ABO/Rh blood groups and systemic inflammation are each linked to cancer biology and prognosis, yet their combined and interactive prognostic value has not been clarified in small-cell lung cancer (SCLC). We investigated the distribution of ABO/Rh blood groups in SCLC, their [...]. **Read more.**

(This article belongs to the Special Issue **Advances in Lung Cancer: From Bench to Bedside (/journal/biomedicines/special_issues/FO9U2EC6AU)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01051/article_deploy/html/images/biomedicines-14-01051-g001-550.jpg?1778060617) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01051/article_deploy/html/images/biomedicines-14-01051-g002-550.jpg?1778060618)

1778060619) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01051/article_deploy/html/images/biomedicines-14-01051-g003-550.jpg?1778060619) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01051/article_deploy/html/images/biomedicines-14-01051-g004-550.jpg?1778060620) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01051/article_deploy/html/images/biomedicines-14-01051-g005-550.jpg?1778060620)

15 pages, 972 KB [\(/2227-9059/14/5/1050/pdf?version=1778057853\)](https://doi.org/10.3390/biomedicines14051050/pdf?version=1778057853)

Open Access Systematic Review

Urinary Cells Flow Cytometry in Renal Disease: A Systematic Review of Diagnostic and Prognostic Applications ([/2227-9059/14/5/1050](https://doi.org/10.3390/biomedicines14051050))

by Rosa Dolores Prieto-Utrera, Juan Manuel Priede-Vimbela, Marc Vives, Pablo Jorge-Monjas, David Bernardo, Álvaro Tamayo-Velasco, Rodrigo Poves-Álvarez, Eduardo Tamayo and Adrián García-Concejo

Biomedicines **2026**, *14*(5), 1050; <https://doi.org/10.3390/biomedicines14051050> (<https://doi.org/10.3390/biomedicines14051050>) - 6 May 2026

Viewed by 548

Abstract Background: Urinary cellular biomarkers detected by flow cytometry have emerged as promising non-invasive tools for the diagnosis, prognosis, and monitoring of renal and urological diseases. However, a comprehensive synthesis of their clinical applicability is lacking. **Objectives:** This review aimed to systematically evaluate and [...] **Read more.**

(This article belongs to the Special Issue **Innovations in Kidney Disease: From Pathogenesis to Therapy** ([/journal/biomedicines/special_issues/VV0ALR19OG](https://journal.biomedicines/special_issues/VV0ALR19OG)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01050/article_deploy/html/images/biomedicines-14-01050-g001-550.jpg?1778057924)

Open Access Article 19 pages, 3031 KB [\(/2227-9059/14/5/1049/pdf?version=1777976519\)](https://doi.org/10.3390/biomedicines14051049/pdf?version=1777976519)

Prediction of Patients' Response to Immune Checkpoint Inhibitors Using Fluorescence Lifetime Imaging of Lymphocytes ([/2227-9059/14/5/1049](https://doi.org/10.3390/biomedicines14051049))

by Diana V. Yuzhakova, Anastasia I. Kononova, Anna V. Izosimova, Margarita M. Sazhina, Varvara V. Dudenkova, Vadim V. Elagin, Pavel A. Bureev, Dmitry A. Kuzmin, Alena I. Gavrina, Irina S. Shumskaya, Sergey V. Gamaynov and Marina V. Shirmanova

Biomedicines **2026**, *14*(5), 1049; <https://doi.org/10.3390/biomedicines14051049> (<https://doi.org/10.3390/biomedicines14051049>) - 5 May 2026

Viewed by 1121

Abstract Background/Objectives: Although immune checkpoint inhibitors (ICIs) have dramatically transformed the landscape of cancer treatment, a significant percentage of patients are resistant to therapy. Identifying biomarkers to accurately predict patient response prior to treatment remains one of the key challenges in this field. Our [...] **Read more.**

(This article belongs to the Section **Immunology and Immunotherapy** ([/journal/biomedicines/sections/immuno](https://journal.biomedicines/sections/immuno)))

► [Show Figures](#)

MDPI (l)
(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01049/article_deploy/html/images/biomedicines-14-01049-g001-550.jpg?1777976804) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01049/article_deploy/html/images/biomedicines-14-01049-g002-550.jpg?1777976808) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01049/article_deploy/html/images/biomedicines-14-01049-g003-550.jpg?1777976811) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01049/article_deploy/html/images/biomedicines-14-01049-g004-550.jpg?1777976812) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01049/article_deploy/html/images/biomedicines-14-01049-sch001-550.jpg?1777976813)

Open Access Article 21 pages, 6913 KB [\(/2227-9059/14/5/1048/pdf?version=1778326015\)](https://doi.org/10.3390/biomedicines14051048/pdf?version=1778326015)

Humanin and MOTS-c Attenuate Atrial Fibrillation by Suppressing Fibrosis and Mitochondrial Dysfunction ([/2227-9059/14/5/1048](https://doi.org/10.3390/biomedicines14051048))

by Yingying Liao, Jie Xu, Yuheng Jiao, Xinxin Sun, Mingkui Gao, Yagang Ding, Dihui Cai, Yinyin Shen, Xiaohui Zhou and Wei Han

Biomedicines **2026**, *14*(5), 1048; <https://doi.org/10.3390/biomedicines14051048> (<https://doi.org/10.3390/biomedicines14051048>) - 5 May 2026

Viewed by 1018

Abstract Background: Atrial fibrillation (AF) is a common clinical arrhythmia associated with mitochondrial dysfunction, oxidative stress, and atrial fibrosis. Mitochondrial-derived peptides (MDPs), including humanin (HN) and MOTS-c, exhibit cytoprotective properties, but their role in AF remains largely unknown. **Objective:** This study aimed to investigate [...] [Read more.](#)

(This article belongs to the Section [Cell Biology and Pathology](https://www.mdpi.com/journal/biomedicines/sections/cell_pathology) ([/journal/biomedicines/sections/cell_pathology](https://www.mdpi.com/journal/biomedicines/sections/cell_pathology)))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01048/article_deploy/html/images/biomedicines-14-01048-ag-550.jpg?1778326164) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01048/article_deploy/html/images/biomedicines-14-01048-g001-550.jpg?1778326144) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01048/article_deploy/html/images/biomedicines-14-01048-g002-550.jpg?1778326146) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01048/article_deploy/html/images/biomedicines-14-01048-g003-550.jpg?1778326148) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01048/article_deploy/html/images/biomedicines-14-01048-g004-550.jpg?1778326152) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01048/article_deploy/html/images/biomedicines-14-01048-g005-550.jpg?1778326158) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01048/article_deploy/html/images/biomedicines-14-01048-g006-550.jpg?1778326163)

8-Epi-Prostaglandin F2 α as a Redox Biomarker in Inflammatory Bowel Disease

[\(/2227-9059/14/5/1047\)](#)

by Ioana-Gabriela Dragne, Bogdan Silviu Ungureanu, Dragos Fortofoiu, Vlad Padureanu, Lidia Boldeanu, Mohamed-Zakaria Assani, Daniel Cosmin Caragea, Dan Ionut Gheonea, Venera Cristina Dinescu and Mihail Virgil Boldeanu

Biomedicines **2026**, *14*(5), 1047; <https://doi.org/10.3390/biomedicines14051047> (<https://doi.org/10.3390/biomedicines14051047>) - 5 May 2026

Viewed by 699

Abstract Background: Oxidative stress plays a significant role in inflammatory bowel disease (IBD), yet the clinical relevance of specific lipid peroxidation markers remains insufficiently defined. This study evaluated serum levels of 8-epi-prostaglandin F2 α (8-epi-PGF2 α), an isoprostane generated through non-enzymatic lipid oxidation, and examined its [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** ([/journal/biomedicines/sections/medicine](#)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01047/article_deploy/html/images/biomedicines-14-01047-g001-550.jpg?1779245126) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01047/article_deploy/html/images/biomedicines-14-01047-g002-550.jpg?1779245131) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01047/article_deploy/html/images/biomedicines-14-01047-g003-550.jpg?1779245134) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01047/article_deploy/html/images/biomedicines-14-01047-g004-550.jpg?1779245135) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01047/article_deploy/html/images/biomedicines-14-01047-g005a-550.jpg?1779245137) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01047/article_deploy/html/images/biomedicines-14-01047-g005b-550.jpg?1779245138)

Risk Stratification in Pulmonary Embolism: The Expanding Role of Biomarkers

[\(/2227-9059/14/5/1046\)](#)

by Cyrus Moini, Piseth Lay, Sebastien Jochmans, Fidele Azandjo, Nassima El Karroumi, Anne-Laure Bouilland and El Mahdi Hafiani

Biomedicines **2026**, *14*(5), 1046; <https://doi.org/10.3390/biomedicines14051046> (<https://doi.org/10.3390/biomedicines14051046>) - 4 May 2026

Viewed by 1326

Abstract Pulmonary embolism (PE) remains a frequent and potentially fatal condition, with early mortality largely driven by (RV) failure and hemodynamic collapse. Rapid and accurate prognostic assessment is therefore central to management. Current European Society of Cardiology (ESC) strategies rely first on hemodynamic status [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** ([/journal/biomedicines/](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01046/article_deploy/html/images/biomedicines-14-01046-g001-550.jpg?1777905493)

Open Access Article

17 pages, 669 KB

(/2227-9059/14/5/1045/pdf?version=1777895000)

Environmental Radon Exposure and Inflammatory Responses in Children and Adolescents: Evidence from a High-Radon Region in Kazakhstan (/2227-9059/14/5/1045)

by Anel Lesbek, Yasutaka Omori, Meirat Bakhtin, Tomisato Miura, Shinji Tokonami, Polat Kazymbet, Danara Ibrayeva, Nursulu Altaeva, Baglan Kazhiyakhmetova, Elena Saifulina, Aigerim Shokabayeva, Elvira Mussayeva, Yelshenbek Mulkat and Yerlan Kashkinbayev
Biomedicines **2026**, *14*(5), 1045; <https://doi.org/10.3390/biomedicines14051045> (<https://doi.org/10.3390/biomedicines14051045>) - 4 May 2026

Viewed by 914

Abstract Background/Objectives: Radon is a naturally occurring radioactive gas and the leading source of natural radiation exposure worldwide; however, its systemic biological effects in children remain poorly understood. This study examined the association between cumulative indoor radon exposure and inflammatory biomarkers among children residing [...]
Read more.

(This article belongs to the Section **Molecular and Translational Medicine (/journal/biomedicines/sections/medicine)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01045/article_deploy/html/images/biomedicines-14-01045-g001-550.jpg?1777895120) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01045/article_deploy/html/images/biomedicines-14-01045-g002-550.jpg?1777895123)

Open Access Review

15 pages, 801 KB

(/2227-9059/14/5/1044/pdf?version=1778051500)

Therapeutic Potential of Probiotics in the Modulation of Antibiotic Resistance in *Helicobacter pylori* (/2227-9059/14/5/1044)

by Lazzat Zhussupbekova, Alina Bulatova, Dinara Nurkina, Klara Kurmangaliyeva, Venera Rakhmetova, Aigyul Izhanova, Kaergeldy Makhambetov and Elmira Akhmedyarova
Biomedicines **2026**, *14*(5), 1044; <https://doi.org/10.3390/biomedicines14051044> (<https://doi.org/10.3390/biomedicines14051044>) - 4 May 2026

Viewed by 1132

Abstract Over the past decade, the growth of *Helicobacter pylori* antibiotic resistance has had an increasingly significant impact on the choice of eradication therapy regimens, significantly limiting the number of effective treatment options. The Maastricht VI guidelines consider the use of probiotics as one [...]
Read more.

(This article belongs to the Special Issue **Drug Development in Gastrointestinal Disorders (/journal/biomedicines/special_issues/MKHM9SSU9F)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01044/article_deploy/html/images/biomedicines-14-01044-ag-550.jpg?1778292920) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01044/article_deploy/html/images/biomedicines-14-01044-g001-550.jpg?1778051565) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01044/article_deploy/html/images/biomedicines-14-01044-g002-550.jpg?1778051567)

Open Access Article 21 pages, 1659 KB [\(/2227-9059/14/5/1043/pdf?version=1778753578\)](https://doi.org/10.3390/biomedicines14051043/pdf?version=1778753578)

Hepatocellular Carcinoma Treatment with Immune Checkpoint Inhibitors: RECA and CRAFTY Scores Reveal Distinct Clinical Courses and Highlight the Role of Systemic Inflammation in Prognosis ([/2227-9059/14/5/1043](https://doi.org/10.3390/biomedicines14051043))

by Xavier Adhoute, Constance Chailloux, Feng Xia, Zhao Huang, Qian Chen, Jing Yan, Qiao Zhang, Victoria Ramdour, Louis Carmarans, Guillaume Pénaranda, Paul Castellani, Albert Tran, Marc Bourlière, René Gerolami and Rodolphe Anty

Biomedicines **2026**, *14*(5), 1043; <https://doi.org/10.3390/biomedicines14051043> (<https://doi.org/10.3390/biomedicines14051043>) - 3 May 2026

Viewed by 1163

Abstract Background/Objectives: Systemic treatment of advanced hepatocellular carcinoma (HCC) is based on combinations of immunotherapies (ITs) and lacks predictive markers of efficacy. Objectives: To define the prognostic value of the CRAFTY and RECA biological scores for overall survival (OS) before and during IT, [...] **Read more.**

(This article belongs to the Special Issue **Advances in Pathogenesis and Therapeutics of Gastrointestinal Diseases** ([/journal/biomedicines/special_issues/18ARENUU9J](https://www.mdpi.com/journal/biomedicines/special_issues/18ARENUU9J)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01043/article_deploy/html/images/biomedicines-14-01043-ag-550.jpg?1778753702) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01043/article_deploy/html/images/biomedicines-14-01043-g001-550.jpg?1778753693) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01043/article_deploy/html/images/biomedicines-14-01043-g002-550.jpg?1778753694) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01043/article_deploy/html/images/biomedicines-14-01043-g003-550.jpg?1778753695) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01043/article_deploy/html/images/biomedicines-14-01043-g004-550.jpg?1778753697) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01043/article_deploy/html/images/biomedicines-14-01043-g005-550.jpg?1778753699) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01043/article_deploy/html/images/biomedicines-14-01043-g006-550.jpg?1778753700) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01043/article_deploy/html/images/biomedicines-14-01043-g007-550.jpg?1778753701)

Open Access Article 17 pages, 1427 KB [\(/2227-9059/14/5/1042/pdf?version=1777802448\)](https://doi.org/10.3390/biomedicines14051042/pdf?version=1777802448)

Small Intestinal Bacterial Overgrowth in Metabolic Dysfunction-Associated Steatotic Liver Disease: Prevalence, Subtypes, and Risk Factors Across Disease Spectrum and Comorbidity Profiles (/2227-9059/14/5/1042)

by Yangjie Li, Huiping He, Limin Chen, Jing Chen, Man Gu, Yijun Guo, Jieqiong Guo, Siyuan Qiao, Jiaying Hu, Zhukun Zhou, Yao Xiao, Zihan Wu and Hongju Yang

Biomedicines **2026**, *14*(5), 1042; <https://doi.org/10.3390/biomedicines14051042> (<https://doi.org/10.3390/biomedicines14051042>) - 3 May 2026

Viewed by 1069

Abstract Background: Small intestinal bacterial overgrowth (SIBO) has been implicated in the pathogenesis of MASLD; however, large-scale clinical data characterizing prevalence patterns, phenotypic subtypes, and disease-specific associations remain limited. **Methods:** This cross-sectional study enrolled 2549 MASLD patients with gastrointestinal symptoms undergoing lactulose [...] **Read more.**

(This article belongs to the Special Issue **Small Intestinal Bacterial Overgrowth and Antimicrobial** ([/journal/biomedicines/special_issues/6171V0GJ67](https://journal/biomedicines/special_issues/6171V0GJ67)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01042/article_deploy/html/images/biomedicines-14-01042-ag-550.jpg?1778229564) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01042/article_deploy/html/images/biomedicines-14-01042-g001-550.jpg?1777802582) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01042/article_deploy/html/images/biomedicines-14-01042-g002-550.jpg?1777802583) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01042/article_deploy/html/images/biomedicines-14-01042-g003-550.jpg?1777802585) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01042/article_deploy/html/images/biomedicines-14-01042-g004-550.jpg?1777802587) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01042/article_deploy/html/images/biomedicines-14-01042-g005-550.jpg?1777802590)

Open Access Article

15 pages, 2536 KB

([/2227-9059/14/5/1041/pdf?version=1777805321](https://doi.org/10.3390/biomedicines14051041/pdf?version=1777805321))

Effect of Chitosan Nanoparticles as an Irrigant in Regenerative Endodontic Therapy of Necrotic Immature Permanent Teeth: An In Vivo Dog Model Study (/2227-9059/14/5/1041)

by Safwat Elwaseef, Huda Ibrahim Mostafa, Abeer Ezat Wahba, Ahmed Mostafa Abbas, Ashraf Mohamad Emran, Gladistone Cadete Meros, Tarsyo Marcel Silva Montezuma and Ehab Hamed Mostafa Elwardaney

Biomedicines **2026**, *14*(5), 1041; <https://doi.org/10.3390/biomedicines14051041> (<https://doi.org/10.3390/biomedicines14051041>) - 3 May 2026

Viewed by 1044

Abstract Background: The aim of this study was to investigate the effect of 2% chitosan nanoparticles (NPs) as an irrigating solution during pulp revascularization of immature dog teeth using histological and histomorphometric analyses. **Materials and Methods:** Pulp necrosis and periapical pathosis were induced [...] **Read more.**

(This article belongs to the Special Issue **Innovations in Bone and Craniofacial Tissue Engineering: From Biomaterials and Mechanobiology to Clinical Applications** (/journal/biomedicines/special_issues/773S37T27E))

► **Show Figures**

 [\(/toggle_desktop_layout_cookie\)](#)  

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01041/article_deploy/html/images/biomedicines-14-01041-ag-550.jpg?1778055495) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01041/article_deploy/html/images/biomedicines-14-01041-g001-550.jpg?1777805412) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01041/article_deploy/html/images/biomedicines-14-01041-g002-550.jpg?1777805416) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01041/article_deploy/html/images/biomedicines-14-01041-g003-550.jpg?1777805419)

Open Access Article 30 pages, 85587 KB [\(/2227-9059/14/5/1040/pdf?version=1777799694\)](https://doi.org/10.3390/biomedicines14051040/pdf?version=1777799694) 

Ferroptosis in Septic Cardiomyopathy Is Alleviated by Ondansetron: The Critical Role of the HTR3A-ATF3 Axis in Mitochondrial and Oxidative Homeostasis ([/2227-9059/14/5/1040](https://doi.org/10.3390/biomedicines14051040))

by Xinyun Wang, Yangyi Lin, Wei Liu, Yufeng Wu, Boshen Yang, Yiming Qi, Yipeng Zhang, Yuanyuan Jin, Yuanlong Wang, Kaifan Niu and Xian Jin

Biomedicines **2026**, *14*(5), 1040; <https://doi.org/10.3390/biomedicines14051040> (<https://doi.org/10.3390/biomedicines14051040>) - 3 May 2026

Viewed by 1261

Abstract Background: Emerging evidence has established ferroptosis as a vital factor in the pathogenesis of cardiovascular diseases, especially in septic cardiomyopathy (SCM). Meanwhile, ondansetron (OND), a well-established 5-HT₃ receptor antagonist, has gained increasing attention for its pleiotropic effects. However, its potential to modulate ferroptosis [...] **Read more.**

(This article belongs to the Special Issue **Acute and Chronic Heart Failure: Pathophysiology and New Therapeutic Developments**, 3rd Edition (/journal/biomedicines/special_issues/E85X6ZQAL9))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01040/article_deploy/html/images/biomedicines-14-01040-g001-550.jpg?1777799762) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01040/article_deploy/html/images/biomedicines-14-01040-g002-550.jpg?1777799768) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01040/article_deploy/html/images/biomedicines-14-01040-g003-550.jpg?1777799773) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01040/article_deploy/html/images/biomedicines-14-01040-g004-550.jpg?1777799778) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01040/article_deploy/html/images/biomedicines-14-01040-g005-550.jpg?1777799783) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01040/article_deploy/html/images/biomedicines-14-01040-g006-550.jpg?1777799789) (<https://pub.mdpi-res.com/biomedicines/biomedicines-14-01040/>)

Effect of Osteoblast-Derived Extracellular Vesicles on Osteosarcoma Cells' Transcriptional Profile: Role of Shuttled miRNAs (/2227-9059/14/5/1039)

by Luca Giacchi, Argia Ucci, Veronica Zelli, Chiara Compagnoni, Elisa Pucci, Alessandra Tessitore, Marco Ponzetti and Nadia Rucci

Biomedicines **2026**, *14*(5), 1039; <https://doi.org/10.3390/biomedicines14051039> (<https://doi.org/10.3390/biomedicines14051039>) - 3 May 2026

Viewed by 943

Abstract Background/Objectives: Osteosarcoma is the most common primary malignant bone tumour, affecting children and young adults. Recent evidence suggests that extracellular vesicles (EVs), small membrane-bound nanoparticles released by all cell types, play a key role in intercellular communication within the tumour microenvironment. Therefore, [...] [Read more.](#)

(This article belongs to the Special Issue **MicroRNA and Its Role in Human Health, 2nd Edition** (/journal/biomedicines/special_issues/RJ5734J6V6))

Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01039/article_deploy/html/images/biomedicines-14-01039-ag-550.jpg?1778223568) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01039/article_deploy/html/images/biomedicines-14-01039-g001-550.jpg?1778223560) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-01039-g002-550.jpg?1778223562](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01039/article_deploy/html/images/biomedicines-14-01039-g002-550.jpg?1778223562)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-01039-g003-550.jpg?1778223565](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01039/article_deploy/html/images/biomedicines-14-01039-g003-550.jpg?1778223565)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-01039-g004-550.jpg?1778223567](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01039/article_deploy/html/images/biomedicines-14-01039-g004-550.jpg?1778223567))

Iron Deficiency in Acute Coronary Syndrome Treated with Percutaneous Angioplasty—A Factor of Unestablished Significance (/2227-9059/14/5/1038)

by Aleksander Misiewicz, Krzysztof Badura, Julia Wnuk-Misiewicz, Krzysztof Śliz, Maciej Nadel, Jan Krekora and Jarosław Drożdż

Biomedicines **2026**, *14*(5), 1038; <https://doi.org/10.3390/biomedicines14051038> (<https://doi.org/10.3390/biomedicines14051038>) - 3 May 2026

Viewed by 995

Abstract Background: Iron deficiency (ID) is a prevalent condition in patients with cardiovascular diseases, irrespective of anemia, associated with adverse outcomes. Its incidence and prognostic value in acute coronary syndromes (ACS) are yet to be established. Current literature on the matter is scarce, [...] [Read more.](#)

(This article belongs to the Special Issue **Coronary Artery Disease: From Pathophysiology to Therapeutic Strategies** (/journal/biomedicines/special_issues/KQ258Y009E))

► **Show Figures**

MDPI (1)
(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01038/article_deploy/html/images/biomedicines-14-01038-ag-550.jpg?1778582083) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01038/article_deploy/html/images/biomedicines-14-01038-g001-550.jpg?1778582075) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01038/article_deploy/html/images/biomedicines-14-01038-g002-550.jpg?1778582077) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01038/article_deploy/html/images/biomedicines-14-01038-g003-550.jpg?1778582078) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01038/article_deploy/html/images/biomedicines-14-01038-g004-550.jpg?1778582080) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01038/article_deploy/html/images/biomedicines-14-01038-g005-550.jpg?1778582082) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01038/article_deploy/html/images/biomedicines-14-01038-g006-550.jpg?1778582081)

Open Access Review

35 pages, 1449 KB

(/2227-9059/14/5/1037/pdf?version=1779106072)

Altered Bile Acid Transport in Liver Disease (/2227-9059/14/5/1037)

by **Sarah Cayton** and **Lindsay C. Czuba**

Biomedicines **2026**, *14*(5), 1037; <https://doi.org/10.3390/biomedicines14051037> (<https://doi.org/10.3390/biomedicines14051037>) - 2 May 2026

Viewed by 1193

Abstract Background/Objectives: Bile acids, synthesized from cholesterol in the liver, are amphipathic molecules that play an integral role in lipid digestion and absorption, while also serving as systemic endocrine hormones. They continuously undergo enterohepatic circulation, where they interact with various transporter proteins. Dysregulated bile [...] **Read more.**

(This article belongs to the Special Issue **Advanced Research in Liver Diseases (/journal/biomedicines/special_issues/7K867ZO5I1)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01037/article_deploy/html/images/biomedicines-14-01037-g001-550.jpg?1779106167) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01037/article_deploy/html/images/biomedicines-14-01037-g002-550.jpg?1779106169) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01037/article_deploy/html/images/biomedicines-14-01037-g003-550.jpg?1779106171)

Open Access Article

11 pages, 380 KB

(/2227-9059/14/5/1036/pdf?version=1777714043)

Diagnostic and Predictive Value of Serum Sestrin-2 and Hypoxia-Inducible Factor-1alpha in Gestational Diabetes Mellitus: A Case–Control Study (/2227-9059/14/5/1036)

by **Yeliz Çeçen Dönmez**, **Esra Keles**, **İsmail Bağlar**, **Fatih Şanlıkan**, **Sahra Sultan Kara**, **Naile Fevziye Misirlioglu**, **Seyma Dumur**, **Oznur Dundar Akın**, **Aylin Yılmaz** and **Hafize Uzun**

Biomedicines **2026**, *14*(5), 1036; <https://doi.org/10.3390/biomedicines14051036> (<https://doi.org/10.3390/biomedicines14051036>)

Abstract Background: Gestational diabetes mellitus (GDM) is a common metabolic disorder characterized by glucose intolerance and associated with adverse maternal and fetal outcomes. Emerging evidence suggests that oxidative stress and hypoxia-related pathways may contribute to its pathophysiology. This study aimed to evaluate the diagnostic [...] **Read more.**

(This article belongs to the Section **Cell Biology and Pathology** (/journal/biomedicines/sections/cell_pathology))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01036/article_deploy/html/images/biomedicines-14-01036-g001-550.jpg?1777714116)

Open Access Article 14 pages, 2508 KB [\(/2227-9059/14/5/1035/pdf?version=1777706651\)](/2227-9059/14/5/1035/pdf?version=1777706651)

Retinal Arteriosclerosis in a Large Health Screening Cohort: Associations with Systemic Vascular Comorbidities and Stroke in Young Adults (</2227-9059/14/5/1035>)

by Kunho Bae, Ju-Yeun Lee and Hyuk Jin Choi

Biomedicines **2026**, *14*(5), 1035; <https://doi.org/10.3390/biomedicines14051035> (<https://doi.org/10.3390/biomedicines14051035>) - 2 May 2026

Viewed by 1147

Abstract Background: Routine fundus photography is widely accessible; however, its utility in stratifying systemic vascular risk in asymptomatic, general populations remains understudied. We utilized a large-scale health screening cohort in South Korea to evaluate the clinical validity of the retinal arteriosclerosis index (RAI) in [...] **Read more.**

(This article belongs to the Topic **Advanced Imaging, Physiology, and Biomarkers in Ischemic Heart Disease** (</topics/940ZL141G8>))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01035/article_deploy/html/images/biomedicines-14-01035-g001-550.jpg?1777706722) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01035/article_deploy/html/images/biomedicines-14-01035-g002-550.jpg?1777706727) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01035/article_deploy/html/images/biomedicines-14-01035-g003-550.jpg?1777706728) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01035/article_deploy/html/images/biomedicines-14-01035-g004-550.jpg?1777706729)

Open Access Review 28 pages, 2364 KB [\(/2227-9059/14/5/1034/pdf?version=1777650577\)](/2227-9059/14/5/1034/pdf?version=1777650577)

DNA Methylation Dynamics in Development and Disease: Insights from Zebrafish Models (</2227-9059/14/5/1034>)

by Gan-Qiang Lai, Yan Yan, Mohini Sengupta and Ting-Hai Xu

Biomedicines **2026**, *14*(5), 1034; <https://doi.org/10.3390/biomedicines14051034> (<https://doi.org/10.3390/biomedicines14051034>) - 1 May 2026

Viewed by 2099

MDPI (1)

Abstract DNA methylation is a fundamental epigenetic modification that regulates gene expression, genome stability, and cell identity across vertebrate development. Disruption of DNA methylation homeostasis contributes to a wide spectrum of human diseases, including developmental disorders, neurological conditions, and cancer. Understanding how DNA methylation [...] [Read more.](#)
(This article belongs to the Special Issue [Role of DNA Methylation in Human Health and Diseases \(/journal/biomedicines/special_issues/803266K198\)](#))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01034/article_deploy/html/images/biomedicines-14-01034-g001-550.jpg?1777650646) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01034/article_deploy/html/images/biomedicines-14-01034-g002-550.jpg?1777650648) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01034/article_deploy/html/images/biomedicines-14-01034-g003-550.jpg?1777650651) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01034/article_deploy/html/images/biomedicines-14-01034-g004-550.jpg?1777650653) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01034/article_deploy/html/images/biomedicines-14-01034-g005-550.jpg?1777650654)

Open Access Article

12 pages, 1144 KB

([/2227-9059/14/5/1033/pdf?version=1777629431](https://doi.org/10.3390/biomedicines14051033/pdf?version=1777629431)) 

A Retrospective Study on Correlations Between EEG Signals (N20, Spectral Entropy, and Alpha Variability) and Prognosis of Traumatic Brain Injury (/2227-9059/14/5/1033)

by Xia Liu, Mengxu Qiao, Qi Liu, Meilin Ai, Jing Deng, Jian Wang, Haojun Yang and Li Huang
Biomedicines **2026**, *14*(5), 1033; <https://doi.org/10.3390/biomedicines14051033> (<https://doi.org/10.3390/biomedicines14051033>) - 1 May 2026

Viewed by 1089

Abstract Aim: To observe the correlations between electroencephalography (EEG) signals and clinical outcomes in patients with traumatic brain injury (TBI). **Methods:** A total of 174 patients diagnosed with TBI at Xiangya Hospital during January 2017 and June 2024 were included in this study. Quantitative [...] [Read more.](#)

(This article belongs to the Special Issue [Neuroscience Through Electrophysiology: Current Trends and Future Directions \(/journal/biomedicines/special_issues/7AEVUHHRT0\)](#))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01033/article_deploy/html/images/biomedicines-14-01033-g001-550.jpg?1777629608) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01033/article_deploy/html/images/biomedicines-14-01033-g002-550.jpg?1777629610) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01033/article_deploy/html/images/biomedicines-14-01033-g003-550.jpg?1777629611) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01033/article_deploy/html/images/biomedicines-14-01033-g004-550.jpg?1777629613) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01033/article_deploy/html/images/biomedicines-14-01033-g005-550.jpg?1777629614)

Open Access Review

29 pages, 2563 KB

(/2227-9059/14/5/1032/pdf?version=1779094411)

Current Status of the Diagnosis and Treatment of Mismatch Repair Deficient Colorectal Cancer (/2227-9059/14/5/1032)

by Donald J. Bastin, Vladimir Djedovic, Angela Hyde, Rachel A. Goodwin, Timothy R. Asmis and Michael M. Vickers

Biomedicines **2026**, *14*(5), 1032; <https://doi.org/10.3390/biomedicines14051032> (<https://doi.org/10.3390/biomedicines14051032>) - 1 May 2026

Cited by 1 (/2227-9059/14/5/1032#metrics) | Viewed by 1269

Abstract Colorectal cancer remains a leading cause of morbidity and mortality worldwide with diverse pathways of carcinogenesis. Deficiencies in the DNA mismatch repair and resultant microsatellite instability are thought to make up roughly 15% of localized and 5% of metastatic cancers of the colon [...]

Read more.

(This article belongs to the Special Issue **Cellular and Molecular Mechanisms in Gastrointestinal Tract Disease: 2nd Edition** (/journal/biomedicines/special_issues/173W6Q8U74))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01032/article_deploy/html/images/biomedicines-14-01032-g001a-550.jpg?1779094512) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01032/article_deploy/html/images/biomedicines-14-01032-g001b-550.jpg?1779094515) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01032/article_deploy/html/images/biomedicines-14-01032-g002-550.jpg?1779094522) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01032/article_deploy/html/images/biomedicines-14-01032-g003-550.jpg?1779094525)

Open Access Article

23 pages, 3681 KB

(/2227-9059/14/5/1031/pdf?version=1778840428) 

Circulating MIF, D-DT, and Soluble CD74 in End-Stage Heart Failure Patients Receiving LVAD: An Exploratory Clinical Study and Effects on Adult Cardiac Myofibroblasts (/2227-9059/14/5/1031)

by Maxim Kunze, Moritz Uhlig, Alexander Theißen, Christian Stoppe, Christian Beckers, Jan Larmann, Rachad Zayat, Ajay Moza, Jürgen Bernhagen, Andreas Goetzenich, Christian Bleilevens and Josefin Soppert

Biomedicines **2026**, *14*(5), 1031; <https://doi.org/10.3390/biomedicines14051031> (<https://doi.org/10.3390/biomedicines14051031>) - 30 Apr 2026

Viewed by 1263

Abstract Background: Emerging evidence highlights the importance of the MIF–sCD74 axis in health and disease, including its role in regulating cell death. While studies in routine cardiac surgery suggest perioperative relevance, its role in end-stage heart failure (ESFH) patients undergoing left ventricular assist device [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** (</journal/biomedicines/sections/medicine>))

► **Show Figures**

 [\(toggle desktop layout cookie\)](#)  
(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01031/article_deploy/html/images/biomedicines-14-01031-ag-550.jpg?1778840530) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01031/article_deploy/html/images/biomedicines-14-01031-g001-550.jpg?1778840505) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01031/article_deploy/html/images/biomedicines-14-01031-g002-550.jpg?1778840510) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01031/article_deploy/html/images/biomedicines-14-01031-g003-550.jpg?1778840516) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01031/article_deploy/html/images/biomedicines-14-01031-g004-550.jpg?1778840518) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01031/article_deploy/html/images/biomedicines-14-01031-g005-550.jpg?1778840521) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01031/article_deploy/html/images/biomedicines-14-01031-g006-550.jpg?1778840524) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01031/article_deploy/html/images/biomedicines-14-01031-g007-550.jpg?1778840526)

Open Access Article

26 pages, 1718 KB

[\(/2227-9059/14/5/1030/pdf?version=1778839105\)](/2227-9059/14/5/1030/pdf?version=1778839105)

An Observational Study of Human Umbilical Cord Tissue Allografts for Paraspinal Muscle and Entheses Defects in the Thoracic and Lumbar Regions (</2227-9059/14/5/1030>)

by **Conrad Tamea, Jeff Buchalter, Jason Capra, Tracie Gilliland, Naomi Lambert, Alexis Lee and Tyler Barrett**

Biomedicines **2026**, *14*(5), 1030; <https://doi.org/10.3390/biomedicines14051030> (<https://doi.org/10.3390/biomedicines14051030>) - 30 Apr 2026

Viewed by 1050

Abstract Introduction: With age and injury, the infiltration of fat in the paraspinal muscles can cause degeneration, disorganizing the structural integrity of the connective tissue and causing lower back pain (LBP). Human umbilical cord tissue allografts (UCTAs) have a collagen-rich matrix with various extracellular [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** (</journal/biomedicines/sections/medicine>))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01030/article_deploy/html/images/biomedicines-14-01030-g001-550.jpg?1778839253) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01030/article_deploy/html/images/biomedicines-14-01030-g002-550.jpg?1778839254) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01030/article_deploy/html/images/biomedicines-14-01030-g003-550.jpg?1778839254) (<https://pub.mdpi-res.com/>)

 [biomedicines/biomedicines-14-01030/article_deploy/html/images/biomedicines-14-01030-g004-550.jpg?1778839255](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01030/article_deploy/html/images/biomedicines-14-01030-g004-550.jpg?1778839255) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01030/article_deploy/html/images/biomedicines-14-01030-g005-550.jpg?1778839255) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01030/article_deploy/html/images/biomedicines-14-01030-g006-550.jpg?1778839256) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01030/article_deploy/html/images/biomedicines-14-01030-g007-550.jpg?1778839256) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01030/article_deploy/html/images/biomedicines-14-01030-g008-550.jpg?1778839256)

Open Access Article 16 pages, 2211 KB [\(/2227-9059/14/5/1029/pdf?version=1778841255\)](https://doi.org/10.3390/biomedicines14051029/pdf?version=1778841255)

Subtenon Autologous Platelet-Rich Plasma in Degenerative Retinal Diseases: A Prospective Pilot Study of Safety and Exploratory Functional Signals in Retinitis Pigmentosa and EMAP
(/2227-9059/14/5/1029)

by Rubens Camargo Siqueira, Cinara Cássia Brandão, Andreia Conceição de Jesus Souza, Juliana Rodrigues Seixas, Marisa Aparecida Balbino, Luma Moreira Antunes, Charles Muniz de Oliveira, Tainara Souza Pinho and Patrícia Fischer Cruz

Biomedicines **2026**, *14*(5), 1029; <https://doi.org/10.3390/biomedicines14051029> (<https://doi.org/10.3390/biomedicines14051029>) - 30 Apr 2026

Viewed by 1085

Abstract Purpose: To evaluate the safety and feasibility of repeated subtenon administration of autologous platelet-rich plasma (PRP) in patients with degenerative retinal diseases and to explore preliminary, hypothesis-generating functional observations in retinitis pigmentosa (RP) and extensive macular atrophy with pseudodrusen-like appearance (EMAP). **Methods:** This [...] **Read more.** (This article belongs to the Section **Molecular and Translational Medicine** ([/journal/biomedicines/sections/medicine](https://journal.biomedicines.com/sections/medicine)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01029/article_deploy/html/images/biomedicines-14-01029-g001-550.jpg?1778841475) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01029/article_deploy/html/images/biomedicines-14-01029-g002a-550.jpg?1778841479) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01029/article_deploy/html/images/biomedicines-14-01029-g002b-550.jpg?1778841481) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01029/article_deploy/html/images/biomedicines-14-01029-g003-550.jpg?1778841484) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01029/article_deploy/html/images/biomedicines-14-01029-g004-550.jpg?1778841486) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01029/article_deploy/html/images/biomedicines-14-01029-g005-550.jpg?1778841490)

Open Access Review 47 pages, 6440 KB [\(/2227-9059/14/5/1028/pdf?version=1778834424\)](https://doi.org/10.3390/biomedicines14051028/pdf?version=1778834424)

Abstract The design of multitargeted drug candidates has recently emerged as a highly attractive area of research. Numerous heterometallic compounds have been developed to enhance both the biological efficacy and physicochemical properties of monometallic metallodrugs. Combining classical transition metals with established antitumor activity, such [...]. [Read more.](#)

(This article belongs to the Section **Drug Discovery, Development and Delivery** (/journal/biomedicines/sections/Drug_Discovery/))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-ag-550.jpg?1778834511) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g001-550.jpg?1778834498) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g002-550.jpg?1778834499) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g003-550.jpg?1778834499) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g004-550.jpg?1778834500) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g005-550.jpg?1778834501) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g006-550.jpg?1778834501) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g007-550.jpg?1778834501) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g008-550.jpg?1778834502) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g009-550.jpg?1778834502) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g010-550.jpg?1778834503) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g011-550.jpg?1778834504) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g012-550.jpg?1778834504) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g013-550.jpg?1778834504) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g014-550.jpg?1778834505) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g015-550.jpg?1778834505)

g015-550.jpg?1778834505) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g016-550.jpg?1778834506) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g017-550.jpg?1778834506) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g018-550.jpg?1778834506) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g019-550.jpg?1778834506) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g020-550.jpg?1778834507) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g021-550.jpg?1778834507) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g022-550.jpg?1778834508) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g023-550.jpg?1778834508) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g024-550.jpg?1778834508) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g025-550.jpg?1778834509) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g026-550.jpg?1778834509) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g027-550.jpg?1778834509) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g028-550.jpg?1778834510) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g029-550.jpg?1778834510) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01028/article_deploy/html/images/biomedicines-14-01028-g030-550.jpg?1778834511)

Open Access Article

23 pages, 4129 KB

(/2227-9059/14/5/1027/pdf?version=1778836148)

Plasma-Activated Water as a Novel Irrigation Strategy for Seawater-Immersed Burn Wounds: Antibacterial Activity and Healing Promotion in Rats (/2227-9059/14/5/1027)

by Shanshan Wei, Ru Yang, Tian Fang, Zhuo Dai, Xinyu Wang, Yajun Zhao, Sen Wang and Lin Sun
Biomedicines **2026**, *14*(5), 1027; <https://doi.org/10.3390/biomedicines14051027> (<https://doi.org/10.3390/biomedicines14051027>) - 30 Apr 2026

Viewed by 846

Abstract Objectives: Seawater-immersed burn wounds are highly susceptible to contamination, persistent inflammation, oxidative stress, and delayed healing, while current irrigation solutions remain suboptimal for such acute injuries. This study aimed to evaluate the therapeutic efficacy and underlying mechanisms of plasma-activated water (PAW) as a [...] **Read more.**

(This article belongs to the Special Issue **Advances in Wound Healing (/journal/biomedicines/**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01027/article_deploy/html/images/biomedicines-14-01027-g001-550.jpg?1778836252) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01027/article_deploy/html/images/biomedicines-14-01027-g002-550.jpg?1778836256) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01027/article_deploy/html/images/biomedicines-14-01027-g003-550.jpg?1778836259) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01027/article_deploy/html/images/biomedicines-14-01027-g004-550.jpg?1778836263) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01027/article_deploy/html/images/biomedicines-14-01027-g005-550.jpg?1778836267) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01027/article_deploy/html/images/biomedicines-14-01027-g006-550.jpg?1778836271) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01027/article_deploy/html/images/biomedicines-14-01027-g007-550.jpg?1778836274) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01027/article_deploy/html/images/biomedicines-14-01027-g008-550.jpg?1778836278) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01027/article_deploy/html/images/biomedicines-14-01027-g009-550.jpg?1778836281)

Open Access Review

24 pages, 2582 KB

(/2227-9059/14/5/1026/pdf?version=1778828017)

Th9 and IL9 in Chronic Superior Airway Inflammation: A Narrative Review (/2227-9059/14/5/1026)

by Mihai Dumitru, Ovidiu Berghi, Gabriela Musat, Crenguta Serboiu, Alina Oancea, Alina Gabriela Berghi, Adina Zamfir-Chiru-Anton and Daniela Vrinceanu

Biomedicines **2026**, *14*(5), 1026; <https://doi.org/10.3390/biomedicines14051026> (<https://doi.org/10.3390/biomedicines14051026>) - 30 Apr 2026

Viewed by 899

Abstract Inflammation at the superior airway level has multiple manifestations, and allergic rhinitis and chronic rhinosinusitis with or without polyps are two of the most frequent and troublesome of them, with innate and adaptive immunity being implicated. Dendritic cells, epithelial cells, neutrophils, macrophages, mucosal [...] **Read more.**

(This article belongs to the Special Issue **Multidisciplinary Approaches in Complex Ear, Nose and Throat Pathology** (/journal/biomedicines/special_issues/X530313LR5))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01026/article_deploy/html/images/biomedicines-14-01026-g001-550.jpg?1778828135) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01026/article_deploy/html/images/biomedicines-14-01026-g002-550.jpg?1778828138) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01026/article_deploy/html/images/biomedicines-14-01026-g003-550.jpg?1778828140) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01026/article_deploy/html/images/biomedicines-14-01026-g004-550.jpg?1778828143) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01026/article_deploy/html/images/biomedicines-14-01026-g005-550.jpg?1778828146) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01026/article_deploy/html/images/biomedicines-14-01026-g006-550.jpg?1778828149) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01026/article_deploy/html/images/biomedicines-14-01026-g007-550.jpg?1778828152) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01026/article_deploy/html/images/biomedicines-14-01026-g008-550.jpg?1778828155) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01026/article_deploy/html/images/biomedicines-14-01026-g009-550.jpg?1778828158)

 [g005-550.jpg?1778828142](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01026/article_deploy/html/images/biomedicines-14-01026-g005-550.jpg?1778828142)) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01026/article_deploy/html/images/biomedicines-14-01026-g005-550.jpg?1778828146) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01026/article_deploy/html/images/biomedicines-14-01026-g006-550.jpg?1778828148) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01026/article_deploy/html/images/biomedicines-14-01026-g007-550.jpg?1778828150)

Open Access Article 18 pages, 4373 KB [_\(/2227-9059/14/5/1025/pdf?version=1778758723\)](https://doi.org/10.3390/biomedicines14051025/pdf?version=1778758723) 

The Effect of Aza-Glycine Substitution on the Internalization of DabcyL-Containing Short Oligoarginine (/2227-9059/14/5/1025)

by Karima Tarchoun, Dóra Soltész, Ildikó Szabó, Jong-Won Song, Ho-Jin Lee and Zoltán Bánóczy *Biomedicines* **2026**, *14*(5), 1025; <https://doi.org/10.3390/biomedicines14051025> (<https://doi.org/10.3390/biomedicines14051025>) - 30 Apr 2026

Viewed by 798

Abstract Background/Objectives: Longer oligoarginines are very effective cell-penetrating peptides. It has been shown that a minimal number of positively charged side chains is necessary for efficient cellular uptake. But a highly positively charged peptide may interact with its cargo molecule, thereby reducing its [...] **Read more.**

(This article belongs to the Section **Drug Discovery, Development and Delivery (/journal/biomedicines/sections/Drug_Discovery)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01025/article_deploy/html/images/biomedicines-14-01025-g001-550.jpg?1778758936) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01025/article_deploy/html/images/biomedicines-14-01025-g002-550.jpg?1778758937) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01025/article_deploy/html/images/biomedicines-14-01025-g003-550.jpg?1778758938) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01025/article_deploy/html/images/biomedicines-14-01025-g004-550.jpg?1778758938) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01025/article_deploy/html/images/biomedicines-14-01025-g005-550.jpg?1778758939) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01025/article_deploy/html/images/biomedicines-14-01025-g006-550.jpg?1778758939)

Open Access Review 23 pages, 1187 KB [_\(/2227-9059/14/5/1024/pdf?version=1779189052\)](https://doi.org/10.3390/biomedicines14051024/pdf?version=1779189052)

Explainable Artificial Intelligence in Assisted Reproductive Technology: Bridging Prediction and Clinical Judgment (/2227-9059/14/5/1024)

by Nektaria Kritsotaki, Dimitrios Diamantidis, Nikoleta Koutlaki, Nikolaos Machairiotis and Panagiotis Tsikouras

Biomedicines **2026**, *14*(5), 1024; <https://doi.org/10.3390/biomedicines14051024> (<https://doi.org/10.3390/biomedicines14051024>) - 30 Apr 2026

Viewed by 899

Abstract Background/Objectives: Artificial intelligence (AI) models are increasingly applied across the assisted reproductive technology (ART) workflow, including male-factor assessment, ovarian stimulation, endometrial receptivity evaluation, embryo selection and prediction of pregnancy outcomes. However, many systems remain difficult to interpret, raising concerns regarding transparency, clinical applicability, and Read more.

(This article belongs to the Special Issue **New Advances in Human Reproductive Biology** (./journal/biomedicines/special_issues/88Z6WHZ65Q))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01024/article_deploy/html/images/biomedicines-14-01024-g001-550.jpg?1779189127) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01024/article_deploy/html/images/biomedicines-14-01024-g002-550.jpg?1779189130)

Open Access Review

13 pages, 3381 KB

(./2227-9059/14/5/1023/pdf?version=1778757220)

From Risk Stratification to Prevention of Myocardial Infarction: Integrating Imaging and Biomarkers in the Perioperative Setting (./2227-9059/14/5/1023)

by Jeong Yoon Jang, Jae Seok Bae, Yun-Ho Cho, Yujin Shin, Han Ra Choi, Jeong Rang Park, Min Gyu Kang, Hye-Ree Kim, Yong-Lee Kim, Hyo Jin Lee, Kye-Hwan Kim, Jin-Yong Hwang, Sung-Eun Park and Jong-Hwa Ahn

Biomedicines **2026**, *14*(5), 1023; <https://doi.org/10.3390/biomedicines14051023> (<https://doi.org/10.3390/biomedicines14051023>) - 30 Apr 2026

Viewed by 601

Abstract Perioperative myocardial infarction (MI) and myocardial injury after noncardiac surgery (MINS) remain major causes of postoperative morbidity and mortality, yet optimal perioperative cardiovascular risk stratification remains challenging. This narrative review examines how cardiovascular imaging and circulating biomarkers may be integrated to improve perioperative [...] **Read more.**

(This article belongs to the Special Issue **Saving Lives from Myocardial Infarction: Prevention vs. Therapy** (./journal/biomedicines/special_issues/2UP0RKW5NI))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01023/article_deploy/html/images/biomedicines-14-01023-g001-550.jpg?1778757329)

Open Access Article

26 pages, 1373 KB

(./2227-9059/14/5/1022/pdf?version=1778839140)

Leveraging ADMET Profiling, Network Pharmacology, and Molecular Docking to Evaluate the Repurposing of Product Nkabinde for COVID-19 Treatment (./2227-9059/14/5/1022)

by Samuel Chima Ugbaja, Siphathimandla Authority Nkabinde, Magugu Nkabinde and Nceba Gqaleni

Biomedicines **2026**, *14*(5), 1022; <https://doi.org/10.3390/biomedicines14051022> (<https://doi.org/10.3390/biomedicines14051022>) - 30 Apr 2026

Viewed by 940

Abstract Background: The coronavirus disease 2019 (COVID-19), caused by SARS-CoV-2, remains a

significant threat to global health. This continued threat is due to the emergence of new variants, the immune system's limited ability to respond, and the limited effectiveness of available treatments for [...]

Read more.

(This article belongs to the Special Issue **Pathogenesis, Diagnosis and Treatment of Infectious Diseases (2nd Edition)** (/journal/biomedicines/special_issues/X90O5CM808))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01022/article_deploy/html/images/biomedicines-14-01022-g001-550.jpg?1778839261) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01022/article_deploy/html/images/biomedicines-14-01022-g002-550.jpg?1778839263) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01022/article_deploy/html/images/biomedicines-14-01022-g003-550.jpg?1778839264) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01022/article_deploy/html/images/biomedicines-14-01022-g004-550.jpg?1778839265) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01022/article_deploy/html/images/biomedicines-14-01022-g005-550.jpg?1778839266)

Open Access Article 21 pages, 5101 KB (/2227-9059/14/5/1021/pdf?version=1778834121)

A PTPRO-Related Five-Gene Blood Transcriptional Signature with Diagnostic Potential for Tuberculosis (/2227-9059/14/5/1021)

by Fengjiao Wu, Ru Huang, Yuxuan Lin, Xixi Zhu, Yujie Li, Huiting Dai, Xiaoyu Zhou, Fang Fang, Ying Liang, Tao Xu, Chuanwang Song, Wei Li, Xiaojing Wang, Xianyou Chang, Hongtao Wang, Ting Wang, Jingzhu Lv and Zhongqing Qian

Biomedicines **2026**, *14*(5), 1021; <https://doi.org/10.3390/biomedicines14051021> (<https://doi.org/10.3390/biomedicines14051021>) - 30 Apr 2026

Viewed by 856

Abstract Background/Objectives: Tuberculosis (TB), caused by *Mycobacterium tuberculosis* (MTB), remains a major global health problem. Drug resistance and the limitations of sputum-based diagnostic methods highlight the need for additional host-response biomarkers. Protein tyrosine phosphatase receptor type O (PTPRO) has been implicated in inflammatory signaling [...]
Read more.

(This article belongs to the Special Issue **Mycobacterial Infections: Insights into Pathogenesis, Diagnosis, and Treatment** (/journal/biomedicines/special_issues/5M1313H6OL))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01021/article_deploy/html/images/biomedicines-14-01021-g001-550.jpg?1778834344) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01021/article_deploy/html/images/biomedicines-14-01021-g002-550.jpg?1778834349) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01021/article_deploy/html/images/biomedicines-14-01021-g003-550.jpg?1778834350) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01021/article_deploy/html/images/biomedicines-14-01021-g004-550.jpg?1778834350) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01021/article_deploy/html/images/biomedicines-14-01021-g005-550.jpg?1778834350)

 [article_deploy/html/images/biomedicines-14-01021-g005-550.jpg?1778834353](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01021/article_deploy/html/images/biomedicines-14-01021-g005-550.jpg?1778834353)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-01021-g006-550.jpg?1778834353](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01021/article_deploy/html/images/biomedicines-14-01021-g006-550.jpg?1778834353)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-01021-g007-550.jpg?1778834353](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01021/article_deploy/html/images/biomedicines-14-01021-g007-550.jpg?1778834353)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-01021-g008-550.jpg?1778834355](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01021/article_deploy/html/images/biomedicines-14-01021-g008-550.jpg?1778834355))

Open Access Article

23 pages, 34432 KB

[\(/2227-9059/14/5/1020/pdf?version=1777551114\)](#)

Phospholipid Nanoparticle Resuscitation Preserves Neuronal Integrity and Cognitive Recovery Without Exacerbating Neuroinflammation Following Hemorrhagic Shock-Induced Clinical Death
(/2227-9059/14/5/1020)

by Philemon Shallie, Nathan Carpenter, Othman Sheikh Hussein, Harshini Kumaresan, Danielle Kinsey, Oluwadamilola Shallie, Gelilla Daniel, Gracy Rosario, Michael Moncure and Cuthbert O. Simpkins

Biomedicines **2026**, *14*(5), 1020; <https://doi.org/10.3390/biomedicines14051020> (<https://doi.org/10.3390/biomedicines14051020>) - 30 Apr 2026

Viewed by 658

Abstract Background/Objectives: Severe hemorrhagic shock progressing to clinical death remains a major cause of mortality and long-term neurological morbidity despite advances in trauma care. While current resuscitation strategies restore circulation, their ability to preserve brain structure and function following global ischemia–reperfusion injury remains [...]. **Read more.**

(This article belongs to the Section **Nanomedicine and Nanobiology** (</journal/biomedicines/sections/nanomedicine>))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01020/article_deploy/html/images/biomedicines-14-01020-g001-550.jpg?1777551186) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01020/article_deploy/html/images/biomedicines-14-01020-g002-550.jpg?1777551186) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01020/article_deploy/html/images/biomedicines-14-01020-g003-550.jpg?1777551186) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01020/article_deploy/html/images/biomedicines-14-01020-g004-550.jpg?1777551187) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01020/article_deploy/html/images/biomedicines-14-01020-g005-550.jpg?1777551188) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01020/article_deploy/html/images/biomedicines-14-01020-g006-550.jpg?1777551188) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01020/article_deploy/html/images/biomedicines-14-01020-g007-550.jpg?1777551190) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-01020-g008-550.jpg?1777551190](https://pub.mdpi-res.com/biomedicines/biomedicines-14-01020/article_deploy/html/images/biomedicines-14-01020-g008-550.jpg?1777551190))

Wild Flora Species from Romania with Anxiolytic and Antidepressant Potential: A Global Perspective—Narrative Review (/2227-9059/14/5/1019)

by Olimpia-Daniela Frent, Eleonora Marian, Laura Grațîela Vicaș, Ioana Lavinia Dejeu, George Emanuiel Dejeu, Mariana Ganea, Georgiana Ioana Potra Cicalău, Gabriela Ciavoi, Roxana Alexandra Cristea, Csaba Nagy, Darius Aghaei and Claudiu-Sorin Iova

Biomedicines **2026**, *14*(5), 1019; <https://doi.org/10.3390/biomedicines14051019> (<https://doi.org/10.3390/biomedicines14051019>) - 30 Apr 2026

Viewed by 903

Abstract Introduction: Depression and anxiety are highly prevalent disorders with a substantial impact on quality of life. Limitations related to the efficacy and tolerability of conventional pharmacological treatments have stimulated increasing interest in complementary therapeutic approaches, including phytotherapy. This review aims to provide an [...] **Read more.**

(This article belongs to the Section **Neurobiology and Clinical Neuroscience** (/journal/biomedicines/sections/neuro))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01019/article_deploy/html/images/biomedicines-14-01019-g001-550.jpg?1777560012) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01019/article_deploy/html/images/biomedicines-14-01019-g002-550.jpg?1777560015) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01019/article_deploy/html/images/biomedicines-14-01019-g003-550.jpg?1777560018) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01019/article_deploy/html/images/biomedicines-14-01019-g004-550.jpg?1777560021) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01019/article_deploy/html/images/biomedicines-14-01019-g005-550.jpg?1777560024)

The Influence of Basic Therapy and New Drugs on NO-Dependent Mechanisms of Cardiac Destruction in Chronic Heart Failure (/2227-9059/14/5/1018)

by Igor Belenichev, Olena Popazova, Olexiy Goncharov, Nina Bukhtiyarova, Victor Ryzhenko, Denys Semenov, Sergiy Oliynyk, Pavlo Petakh and Oleksandr Kamyshnyi

Biomedicines **2026**, *14*(5), 1018; <https://doi.org/10.3390/biomedicines14051018> (<https://doi.org/10.3390/biomedicines14051018>) - 30 Apr 2026

Viewed by 549

Abstract Chronic heart failure (CHF) remains a leading cause of global mortality, characterized by profound molecular and biochemical disturbances, including nitric oxide (NO) system dysfunction, mitochondrial impairment, and oxidative stress. While standard therapies such as ACE inhibitors, SGLT2 inhibitors, and beta-blockers address clinical symptoms, [...] **Read more.**

(This article belongs to the Special Issue **New Advances in Cardiovascular Drugs: In Memory of**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01018/article_deploy/html/images/biomedicines-14-01018-g001-550.jpg?1778665042) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01018/article_deploy/html/images/biomedicines-14-01018-g002-550.jpg?1778665045) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01018/article_deploy/html/images/biomedicines-14-01018-g003-550.jpg?1778665047)

Open Access Article

21 pages, 6595 KB

(/2227-9059/14/5/1017/pdf?version=1777548380)

Elucidating the Urothelial-Dependent and -Independent Mechanisms Involved in the Mouse Bladder Contractility Alterations by Acute Methylglyoxal Exposure (/2227-9059/14/5/1017)

by Akila Lara Oliveira, Matheus Leite Medeiros, Vivian Fuguhara, Idam Hermawan, Hiroaki Shimokawa, Masato Tsutsui, Gilberto De Nucci and Edson Antunes

Biomedicines **2026**, *14*(5), 1017; <https://doi.org/10.3390/biomedicines14051017> (<https://doi.org/10.3390/biomedicines14051017>) - 30 Apr 2026

Viewed by 650

Abstract Background/Objectives: Methylglyoxal (MGO) and subsequent activation of advanced glycation end products (AGEs)—RAGE receptor signaling has been implicated in the complications of diabetes mellitus (DM), such as bladder dysfunction. Chronic treatment with MGO leads to bladder overactivity, but the effects of acute MGO [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine (/journal/biomedicines/sections/medicine)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01017/article_deploy/html/images/biomedicines-14-01017-g001-550.jpg?1777548522) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01017/article_deploy/html/images/biomedicines-14-01017-g002-550.jpg?1777548522) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01017/article_deploy/html/images/biomedicines-14-01017-g003-550.jpg?1777548523) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01017/article_deploy/html/images/biomedicines-14-01017-g004-550.jpg?1777548524) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01017/article_deploy/html/images/biomedicines-14-01017-g005-550.jpg?1777548525) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01017/article_deploy/html/images/biomedicines-14-01017-g006-550.jpg?1777548526) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01017/article_deploy/html/images/biomedicines-14-01017-g007-550.jpg?1777548526)

Open Access Retraction

1 pages, 158 KB

(/2227-9059/14/5/1016/pdf?version=1777543838)

RETRACTED: Caffo et al. Molecular Investigation of DKK3 in Cerebral Ischemic/Reperfusion Injury. *Biomedicines* 2023, *11*, 815 (/2227-9059/14/5/1016)

by **Maria Caffo, Roberta Fusco, Rosalba Siracusa, Gerardo Caruso, Valeria Barresi, Rosanna Di Paola, Salvatore Cuzzocrea, Antonino Francesco Germanò and Salvatore Massimo Cardali**

Biomedicines **2026**, *14*(5), 1016; <https://doi.org/10.3390/biomedicines14051016> (<https://doi.org/10.3390/biomedicines14051016>) - 30 Apr 2026

Viewed by 428

Abstract The journal retracts the article titled “Molecular Investigation of DKK3 in Cerebral Ischemic/Reperfusion Injury” [...] **Full article** ([/2227-9059/14/5/1016](https://doi.org/10.3390/biomedicines14051016))

(This article belongs to the Section **Neurobiology and Clinical Neuroscience** ([/journal/biomedicines/sections/neuro](https://journal.biomedicines.com/sections/neuro)))

Open Access Review

14 pages, 2924 KB

[/2227-9059/14/5/1016/pdf?version=1777535465](https://doi.org/10.3390/biomedicines14051016/pdf?version=1777535465)

TRPA1 and TRPM8 in Allergic Rhinitis and Chronic Rhinosinusitis: Emerging Role in Neuroimmune Inflammation ([/2227-9059/14/5/1015](https://doi.org/10.3390/biomedicines14051015))

by **Tianhui Kang, Zijun Qiu, Surita Aodeng, Yuzhuo Liu, Zhenzhen Zhu and Wei Lv**

Biomedicines **2026**, *14*(5), 1015; <https://doi.org/10.3390/biomedicines14051015> (<https://doi.org/10.3390/biomedicines14051015>) - 30 Apr 2026

Cited by 1 ([/2227-9059/14/5/1015#metrics](https://doi.org/10.3390/biomedicines14051015#metrics)) | Viewed by 966

Abstract Nasal hyperreactivity (NHR) is a core symptom of allergic rhinitis (AR) and chronic rhinosinusitis (CRS), frequently induced by cold stimuli. Accumulating evidence indicates that NHR is largely mediated by neuroimmune mechanisms rather than classical allergen-driven inflammation alone. Among the molecular sensors involved, the [...] **Read more.**

(This article belongs to the Special Issue **Allergic Rhinitis: From Pathology to Novel Therapeutic Approaches** ([/journal/biomedicines/special_issues/P339816IXL](https://journal.biomedicines.com/special_issues/P339816IXL)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01015/article_deploy/html/images/biomedicines-14-01015-g001-550.jpg?1777535573) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01015/article_deploy/html/images/biomedicines-14-01015-g002-550.jpg?1777535573)

Open Access Article

19 pages, 33829 KB

[/2227-9059/14/5/1014/pdf?version=1777534387](https://doi.org/10.3390/biomedicines14051014/pdf?version=1777534387)

Identification of RPA3 as a Potential Functional Effector of Chromosome 7 Gain in Glioblastoma ([/2227-9059/14/5/1014](https://doi.org/10.3390/biomedicines14051014))

by **Yulu Ge, Zhan Hu, Wenbo Wu, Wenbin Ma, Tingyu Liang and Yu Wang**

Biomedicines **2026**, *14*(5), 1014; <https://doi.org/10.3390/biomedicines14051014> (<https://doi.org/10.3390/biomedicines14051014>) - 30 Apr 2026

Viewed by 541

Abstract Background: Chromosome 7 gain (chr7 gain) is a highly prevalent early event in glioblastoma (GBM). Because chr7 gain usually involves broad chromosomal amplification, its biological impact is unlikely to be fully explained by canonical loci such as *EGFR* and *MET*. The contribution [...] **Read more.**

(This article belongs to the Special Issue **Mechanisms and Novel Therapeutic Approaches for Gliomas: 2nd Edition** ([/journal/biomedicines/special_issues/X1E825XIZJ](https://journal.biomedicines.com/special_issues/X1E825XIZJ)))

► [Show Figures](#)

MDPI (l)
(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01014/article_deploy/html/images/biomedicines-14-01014-g001-550.jpg?1777534557) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01014/article_deploy/html/images/biomedicines-14-01014-g002-550.jpg?1777534557) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01014/article_deploy/html/images/biomedicines-14-01014-g003-550.jpg?1777534558) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01014/article_deploy/html/images/biomedicines-14-01014-g004-550.jpg?1777534559) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01014/article_deploy/html/images/biomedicines-14-01014-g005-550.jpg?1777534559)

Open Access Article

10 pages, 508 KB

(/2227-9059/14/5/1013/pdf?version=1778813033)

AptoDetect™-Lung Assay as a Blood-Based Predictor of Advanced-Stage Lung Cancer in Patients with Lung-RADS 3–4 Pulmonary Nodules: A Multicenter Prospective Cohort Study (/2227-9059/14/5/1013)

by Bora Lee, Chi Young Kim, Jung Seop Eom, Wonjun Ji, Min Jee Kim, Sung Hoon Yoon, June Hong Ahn, Jun Hyeok Lim, Chaeuk Chung, Dong Won Park, Seung Hyeun Lee and Chang Dong Yeo

Biomedicines **2026**, *14*(5), 1013; <https://doi.org/10.3390/biomedicines14051013> (<https://doi.org/10.3390/biomedicines14051013>) - 29 Apr 2026

Viewed by 575

Abstract Background: The AptoDetect™-Lung assay is an aptamer-based test designed for risk assessment in patients with pulmonary nodules, but its potential role in predicting lung cancer stage has not been evaluated. We investigated whether the assay could predict advanced-stage disease beyond conventional diagnostic [...] [Read more.](#)

(This article belongs to the Section **Cancer Biology and Oncology (/journal/biomedicines/sections/cancer)**)

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01013/article_deploy/html/images/biomedicines-14-01013-ag-550.jpg?1778813171) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01013/article_deploy/html/images/biomedicines-14-01013-g001-550.jpg?1778813168) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01013/article_deploy/html/images/biomedicines-14-01013-g002-550.jpg?1778813169) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01013/article_deploy/html/images/biomedicines-14-01013-g003-550.jpg?1778813170)

Open Access Review

18 pages, 707 KB

(/2227-9059/14/5/1012/pdf?version=1778580918)

Clonal Hematopoiesis of Indeterminate Potential as an Emerging Interdisciplinary Risk Factor in Alzheimer's Disease: Current Evidence and Future Directions (/2227-9059/14/5/1012)

by Klara Kopp, Patricia Silva, Frederik Damm and Nicoleta Carmen Cosma

Biomedicines **2026**, *14*(5), 1012; <https://doi.org/10.3390/biomedicines14051012> (<https://doi.org/10.3390/biomedicines14051012>) - 29 Apr 2026

Viewed by 727

Abstract Clonal hematopoiesis of indeterminate potential (CHIP) is an age-related condition affecting over 10–20% of individuals older than 70 years, characterized by the expansion of hematopoietic stem cell clones carrying somatic mutations in leukemia-associated driver genes in the absence of overt hematologic disease. Initially [...] **Read more.**

(This article belongs to the Special Issue **Multidisciplinary Approaches to Neurodegenerative Disorders** (/journal/biomedicines/special_issues/OK6EA6WO1W))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01012/article_deploy/html/images/biomedicines-14-01012-g001-550.jpg?1778581034)

Open Access Article

19 pages, 622 KB

(</2227-9059/14/5/1011/pdf?version=1777457892>)

Vitamin K2 Supplementation Reduces Cardiometabolic Risk Factors in Young Adults with Overweight and Obesity—A Randomized Placebo-Controlled Trial (</2227-9059/14/5/1011>)

by Xochitl Citlalli Olivares-Ochoa, Iris Monserrat Llamas-Covarrubias, Sergio Sánchez-Enríquez, Andres López-Quintero, Yahatziri Salinas-Varela, Miriam Partida-Pérez, Monserrat Macías-Carballo and Edgar Alfonso Rivera-Leon

Biomedicines **2026**, *14*(5), 1011; <https://doi.org/10.3390/biomedicines14051011> (<https://doi.org/10.3390/biomedicines14051011>) - 29 Apr 2026

Viewed by 1072

Abstract Background/Objectives: Obesity in young adults is a major public health concern and a key contributor to cardiometabolic risk. Vitamin K2 (VK2) has been proposed as a potential adjuvant therapy; however, evidence from randomized controlled trials remains limited. This study evaluated the effect [...] **Read more.**

(This article belongs to the Special Issue **Recent Advances in Hypertension, Hypercholesterolemia and Type 2 Diabetes—2nd Edition** (/journal/biomedicines/special_issues/42558PQ736))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01011/article_deploy/html/images/biomedicines-14-01011-g001-550.jpg?1777457973)

Open Access Article

23 pages, 522 KB

(</2227-9059/14/5/1010/pdf?version=1777449079>)

Privacy-Preserving Hybrid GA–LSTM Ensemble for Typhoid Detection Using Optimised Clinical Feature Selection (</2227-9059/14/5/1010>)

by Karim Gasmi, Afrah Alanazi, Sahar Almenwer, Sarah Almaghrabi, Hamoud Alshammari, Kais Khaldi and Hassen Chouaib

Biomedicines **2026**, *14*(5), 1010; <https://doi.org/10.3390/biomedicines14051010> (<https://doi.org/10.3390/biomedicines14051010>) - 29 Apr 2026

Viewed by 627

Abstract Background/Objectives: Typhoid fever remains a major public health challenge in many low-

income countries, where overlapping clinical symptoms and the limited reliability of conventional diagnostic procedures hinder accurate diagnosis. This study aims to develop a reliable and efficient diagnostic framework that automates typhoid fever [...] [Read more.](#)

(This article belongs to the Special Issue [Applications of Biomedical Engineering and Biomaterials in Human Diseases](#) ([/journal/biomedicines/special_issues/PXD6SYFNWN](#)))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01010/article_deploy/html/images/biomedicines-14-01010-g001-550.jpg?1777449289) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01010/article_deploy/html/images/biomedicines-14-01010-g002-550.jpg?1777449292) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01010/article_deploy/html/images/biomedicines-14-01010-g003-550.jpg?1777449293) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01010/article_deploy/html/images/biomedicines-14-01010-g004-550.jpg?1777449293) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01010/article_deploy/html/images/biomedicines-14-01010-g005-550.jpg?1777449295)

Open Access Article

14 pages, 8492 KB

([/2227-9059/14/5/1009/pdf?version=1777433747](#))

[The Antioxidant and Neuroregenerative Effects of Thymoquinone in a Rat Intracerebral Hemorrhage Model](#) ([/2227-9059/14/5/1009](#))

by Khamim Thohari, Asra Al Fauzi and Djoko Agus Purwanto

Biomedicines **2026**, *14*(5), 1009; <https://doi.org/10.3390/biomedicines14051009> (<https://doi.org/10.3390/biomedicines14051009>) - 29 Apr 2026

Viewed by 639

Abstract Background/Objectives: Intracerebral hemorrhage (ICH) is a severe subtype of stroke characterized by extensive secondary brain injury driven by oxidative stress, inflammation, and progressive neuronal loss, leading to poor neurological outcomes. Thymoquinone, a bioactive compound derived from *Nigella sativa*, has demonstrated potent antioxidant and [...] [Read more.](#)

(This article belongs to the Section [Neurobiology and Clinical Neuroscience](#) ([/journal/biomedicines/sections/neuro](#)))

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01009/article_deploy/html/images/biomedicines-14-01009-g001a-550.jpg?1777433906) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01009/article_deploy/html/images/biomedicines-14-01009-g001b-550.jpg?1777433907)

Open Access Review

18 pages, 805 KB

([/2227-9059/14/5/1008/pdf?version=1778814829](#))

[The Role of Dipeptidyl Peptidase Inhibitors in Pulmonary Diseases](#) ([/2227-9059/14/5/1008](#))

by Theodoros Panou, Paschalis Steiropoulos and Fotios Drakopanagiotakis

Biomedicines **2026**, *14*(5), 1008; <https://doi.org/10.3390/biomedicines14051008> (<https://doi.org/10.3390/biomedicines14051008>) - 28 Apr 2026

Viewed by 909

MDPI (1)

Abstract The dipeptidyl peptidase (DPP) family comprises enzymes with important metabolic and immunomodulatory properties. This narrative review summarizes recent clinical and experimental evidence on the role of DPP-1, DPP-4, DPP-9, and DPP-10 in pulmonary diseases. The strongest translational evidence currently supports DPP-1 inhibition in [...] **Read more.**

(This article belongs to the Section **Cell Biology and Pathology** (/journal/biomedicines/sections/cell_pathology/))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01008/article_deploy/html/images/biomedicines-14-01008-ag-550.jpg?1778815083) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01008/article_deploy/html/images/biomedicines-14-01008-g001-550.jpg?1778815083)

Open Access Article 24 pages, 40067 KB [\(/2227-9059/14/5/1007/pdf?version=1777386920\)](/2227-9059/14/5/1007/pdf?version=1777386920) 

Pharmacological Modulation of Injury-Induced Vascular Remodeling by Colchicine: An Integrated Experimental and Network-Based Analysis (</2227-9059/14/5/1007>)

by **Lutfi Cagatay Onar**, **Ersin Guner**, **Havva Nur Alparslan Yumun**, **Hasan Dindar**, **Ibrahim Yilmaz** and **Gunduz Yumun**

Biomedicines **2026**, *14*(5), 1007; <https://doi.org/10.3390/biomedicines14051007> (<https://doi.org/10.3390/biomedicines14051007>) - 28 Apr 2026

Viewed by 698

Abstract Background: Colchicine is a microtubule-targeting anti-inflammatory agent with emerging relevance in cardiovascular disease; however, its effects on injury-induced vascular remodeling remain incompletely defined. **Methods:** In this study, a rat iliac artery clamp injury model was used to evaluate the effects of colchicine (0.5 [...]) **Read more.**

(This article belongs to the Section **Drug Discovery, Development and Delivery** (/journal/biomedicines/sections/Drug_Discovery/))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01007/article_deploy/html/images/biomedicines-14-01007-g001-550.jpg?1777387027) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01007/article_deploy/html/images/biomedicines-14-01007-g002-550.jpg?1777387027) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01007/article_deploy/html/images/biomedicines-14-01007-g003-550.jpg?1777387028) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01007/article_deploy/html/images/biomedicines-14-01007-g004-550.jpg?1777387029) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01007/article_deploy/html/images/biomedicines-14-01007-g005-550.jpg?1777387032) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01007/article_deploy/html/images/biomedicines-14-01007-g006-550.jpg?1777387033) (<https://pub.mdpi-res.com/biomedicines/biomedicines-14-01007/>)

Open Access Article

15 pages, 1095 KB

(/2227-9059/14/5/1006/pdf?version=1777383163)

Time-Dependent Effects of Cisplatin on Autophagy Gene Expression in Bladder Cancer Cells (/2227-9059/14/5/1006)

by Sıtkı Ün, Veli Kaan Aydın, Özgür Kurt, Gergana Lengerova, Martina Bozhkova, Steliyan Petrov and Aylin Köseleler

Biomedicines **2026**, *14*(5), 1006; <https://doi.org/10.3390/biomedicines14051006> (<https://doi.org/10.3390/biomedicines14051006>) - 28 Apr 2026

Viewed by 739

Abstract Background/Objectives: Bladder cancer treatment is frequently hindered by chemoresistance to agents such as cisplatin, a process in which autophagy is hypothesized to play a cytoprotective role. This study aimed to investigate the time-dependent transcriptional dynamics of autophagy-related genes in response to cisplatin [...]. **Read more.**

(This article belongs to the Section **Cancer Biology and Oncology** (/journal/biomedicines/sections/cancer))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01006/article_deploy/html/images/biomedicines-14-01006-ag-550.jpg?1777383309) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01006/article_deploy/html/images/biomedicines-14-01006-g001-550.jpg?1777383303) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01006/article_deploy/html/images/biomedicines-14-01006-g002-550.jpg?1777383305) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01006/article_deploy/html/images/biomedicines-14-01006-g003-550.jpg?1777383306) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01006/article_deploy/html/images/biomedicines-14-01006-g004-550.jpg?1777383308)

Open Access Article

20 pages, 1525 KB

(/2227-9059/14/5/1005/pdf?version=1778636890) 

Comparative Analysis of Gut Microbiota Patterns in Irritable Bowel Syndrome, Anxiety, and Autoimmune Disorders (/2227-9059/14/5/1005)

by Adelin-Rareş Candrea, Laura Ioana Gavrilaş, Andrei Mocan, Adriana Rusu and Gianina Crişan
Biomedicines **2026**, *14*(5), 1005; <https://doi.org/10.3390/biomedicines14051005> (<https://doi.org/10.3390/biomedicines14051005>) - 28 Apr 2026

Viewed by 829

Abstract Background/Objectives: The gut microbiota has been increasingly studied in the context of gastrointestinal, neuropsychiatric, and immune-mediated disorders. However, comparative data across these conditions within the same population remain limited. This observational study aimed to perform a comparative analysis of gut microbiota composition [...]. **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** (/journal/biomedicines/

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01005/article_deploy/html/images/biomedicines-14-01005-g001-550.jpg?1778636982) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01005/article_deploy/html/images/biomedicines-14-01005-g002-550.jpg?1778636983) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01005/article_deploy/html/images/biomedicines-14-01005-g003-550.jpg?1778636985) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01005/article_deploy/html/images/biomedicines-14-01005-g004-550.jpg?1778636986) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01005/article_deploy/html/images/biomedicines-14-01005-g005-550.jpg?1778636989) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01005/article_deploy/html/images/biomedicines-14-01005-g006-550.jpg?1778636991)

Open Access Article

18 pages, 3841 KB

([/2227-9059/14/5/1004/pdf?version=1778581073](https://doi.org/10.3390/biomedicines14051004/pdf?version=1778581073))

Phloretin Attenuates Cancer Cachexia-Induced Skeletal Muscle Wasting Associated with the Modulation of STAT3 Signaling ([/2227-9059/14/5/1004](https://doi.org/10.3390/biomedicines14051004))

by Kai Lin, Mei-Wei He, Fei Wang, Xin-Yu Hu, Zi-Yue He, Chen-Lu Zhang, Zhi-Qiang Huang and Hong-Wei Wang

Biomedicines **2026**, *14*(5), 1004; <https://doi.org/10.3390/biomedicines14051004> (<https://doi.org/10.3390/biomedicines14051004>) - 28 Apr 2026

Viewed by 817

Abstract Background/Objectives: Cancer cachexia (CC) is a metabolic syndrome characterized by the progressive loss of skeletal muscle and adipose tissue during tumor progression. Despite its clinical prevalence, effective therapeutic options are currently lacking. Phloretin, a natural flavonoid with potent anti-inflammatory and antioxidant properties, has [...] **Read more.**

(This article belongs to the Section **Cancer Biology and Oncology** ([/journal/biomedicines/sections/cancer](https://www.mdpi.com/journal/biomedicines/sections/cancer)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01004/article_deploy/html/images/biomedicines-14-01004-g001-550.jpg?1778581198) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01004/article_deploy/html/images/biomedicines-14-01004-g002-550.jpg?1778581202) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01004/article_deploy/html/images/biomedicines-14-01004-g003-550.jpg?1778581205) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01004/article_deploy/html/images/biomedicines-14-01004-g004-550.jpg?1778581211) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01004/article_deploy/html/images/biomedicines-14-01004-g005-550.jpg?1778581214) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01004/article_deploy/html/images/biomedicines-14-01004-g006-550.jpg?1778581217)

MFAP2 Promotes Glioblastoma Malignant Phenotypes via Autophagy-Dependent Activation of Wnt/ β -Catenin Signaling (/2227-9059/14/5/1003)

by Peihao Yang, Demeng Liu, Jiyao Wang, Chao Liu and Yan Fang

Biomedicines **2026**, *14*(5), 1003; <https://doi.org/10.3390/biomedicines14051003> ([https://](https://doi.org/10.3390/biomedicines14051003)doi.org/10.3390/biomedicines14051003) - 28 Apr 2026

Viewed by 734

Abstract Background: Microfibrillar-associated protein 2 (MFAP2) is implicated in various malignancies, yet its specific role and molecular mechanisms in glioblastoma (GBM) progression remain poorly understood. **Methods:** We analyzed MFAP2 expression in human clinical specimens and murine models. Functional impacts were [...] **Read more.**(This article belongs to the Special Issue **Autophagy, Apoptosis and Cancer: 2025 Update (/journal/biomedicines/special_issues/XF70V0H2S2)**)**► Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01003/article_deploy/html/images/biomedicines-14-01003-ag-550.jpg?1777371305) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01003/article_deploy/html/images/biomedicines-14-01003-g001-550.jpg?1777371290) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01003/article_deploy/html/images/biomedicines-14-01003-g002-550.jpg?1777371292) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01003/article_deploy/html/images/biomedicines-14-01003-g003-550.jpg?1777371295) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01003/article_deploy/html/images/biomedicines-14-01003-g004-550.jpg?1777371297) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01003/article_deploy/html/images/biomedicines-14-01003-g005-550.jpg?1777371301)

Effect of Short-Anchored PEGylated Lipids on Lipid Nanoparticle Characterization Profiles, Stability, and Efficacy (/2227-9059/14/5/1002)

by Caroline E. R. Souleyrette, Phillip C. West, Stacy S. Kirkpatrick, Joshua D. Arnold, Michael R. Buckley, Michael B. Freeman, Oscar H. Grandas, Lauren B. Grimsley, Michael M. McNally and Deidra J. H. Mountain

Biomedicines **2026**, *14*(5), 1002; <https://doi.org/10.3390/biomedicines14051002> ([https://](https://doi.org/10.3390/biomedicines14051002)doi.org/10.3390/biomedicines14051002) - 28 Apr 2026

Viewed by 1015

Abstract Background/Objectives: RNA interference (RNAi) is a promising strategy for mitigating diseases at the molecular level. However, RNAi is limited by its instability in biological fluids and impermeability to cellular membranes. In response, our lab has previously patented a non-ionizable lipid nanoparticle (LNP) [...] **Read more.**

(This article belongs to the Special Issue **Advanced Development on Lipid Nanoparticles** ([/journal/biomedicines/special_issues/V30W802I6Z](#)))

► **Show Figures**

 [\(toggle desktop layout cookie\)](#)  
(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01002/article_deploy/html/images/biomedicines-14-01002-ag-550.jpg?1777370146) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01002/article_deploy/html/images/biomedicines-14-01002-g001-550.jpg?1777370131) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01002/article_deploy/html/images/biomedicines-14-01002-g002-550.jpg?1777370133) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01002/article_deploy/html/images/biomedicines-14-01002-g003-550.jpg?1777370135) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01002/article_deploy/html/images/biomedicines-14-01002-g004-550.jpg?1777370138) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01002/article_deploy/html/images/biomedicines-14-01002-g005-550.jpg?1777370139) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01002/article_deploy/html/images/biomedicines-14-01002-g006-550.jpg?1777370141) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01002/article_deploy/html/images/biomedicines-14-01002-g007-550.jpg?1777370143) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01002/article_deploy/html/images/biomedicines-14-01002-g008-550.jpg?1777370144)

Open Access Article

13 pages, 652 KB

[\(/2227-9059/14/5/1001/pdf?version=1777370476\)](#)

Effect Modification of Alcohol Use on Epilepsy: NHIS Longitudinal Study ([/2227-9059/14/5/1001](#))

by Sri Banerjee, W. Sumner Davis, Kay Banerjee, Joseph McMillan, Claret Onukogu, Pat Dunn, Arturo Olazabal, Mekuria Asfaw, Heather Esnaola, Stephanie Watkins and Rafael Gonzales-Lagos *Biomedicines* **2026**, *14*(5), 1001; <https://doi.org/10.3390/biomedicines14051001> (<https://doi.org/10.3390/biomedicines14051001>) - 28 Apr 2026

Viewed by 1281

Abstract Introduction: The relationship between epilepsy and alcohol use is complex and clinically significant. Alcohol acts as a neurochemical modulator capable of lowering the seizure threshold during both intoxication and withdrawal, while chronic misuse may contribute to epileptogenesis through neuronal injury, metabolic stress, and [...] **Read more.**

(This article belongs to the Section **Neurobiology and Clinical Neuroscience** ([/journal/biomedicines/sections/neuro](#)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01001/article_deploy/html/images/biomedicines-14-01001-g001-550.jpg?1777370554) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-01001/article_deploy/html/images/biomedicines-14-01001-g002-550.jpg?1777370556)

Hematological Inflammatory Indices and Coagulation Parameters in Individuals with Substance Use Disorder: A Comparative Study with Healthy Controls [\(/2227-9059/14/5/1000\)](#)

by **Fatih Saglam, Bilal Altunisik, Ahmet Yaltir and Necip Naş**

Biomedicines **2026**, *14*(5), 1000; <https://doi.org/10.3390/biomedicines14051000> (<https://doi.org/10.3390/biomedicines14051000>) - 28 Apr 2026

Viewed by 747

Abstract Background: Substance use disorder (SUD) is associated with systemic inflammatory activation and may influence hematological and coagulation-related pathways. Chronic exposure to psychoactive substances may promote immune activation, endothelial dysfunction, and increased platelet reactivity, thereby contributing to inflammation–coagulation crosstalk. Routine laboratory markers derived from [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** (</journal/biomedicines/sections/medicine/>))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-01000/article_deploy/html/images/biomedicines-14-01000-g001-550.jpg?1777361113)

Validation of Multi-Target Stool DNA Methylation Test for Colorectal Cancer Detection: A Preliminary Analysis [\(/2227-9059/14/5/999\)](#)

by **Khairul Anwar Abdul Rahman, Nabil Mohammad Azmi, Shahrul Niza Abdullah Suhaimi, Zairul Azwan Mohd Azman, Farhana Raduan, Khairul Najmi Muhammad Nawawi, Shamsul Azhar Shah, Geok Chin Tan, Yin Ping Wong and Sayyidi Hamzi Abdul Raub**

Biomedicines **2026**, *14*(5), 999; <https://doi.org/10.3390/biomedicines14050999> (<https://doi.org/10.3390/biomedicines14050999>) - 27 Apr 2026

Viewed by 1841

Abstract Colorectal cancer (CRC) develops gradually from precancerous adenomas and is highly curable when detected early. In Malaysia, however, most cases are diagnosed at advanced stages, leading to poorer outcomes despite the availability of screening programmes such as the immunological Faecal Occult Blood Test [...] **Read more.**

(This article belongs to the Special Issue **Advancements in the Treatment of Colorectal Cancer** (/journal/biomedicines/special_issues/9S4Z9BK5Q8/))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00999/article_deploy/html/images/biomedicines-14-00999-g001-550.jpg?1777300262) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00999/article_deploy/html/images/biomedicines-14-00999-g002-550.jpg?1777300265)

Integrative Multi-Omics and Machine Learning Analysis Identifies Therapeutic Targets and Drug

Repurposing Candidates for Alzheimer's Disease (/2227-9059/14/5/998)

by **MDPI**  by Bowen Xiao, Yong Q. Chen and Shaopeng Wang

Biomedicines **2026**, *14*(5), 998; <https://doi.org/10.3390/biomedicines14050998> (<https://doi.org/10.3390/biomedicines14050998>) - 27 Apr 2026

 [\(toggle desktop layout cookie\)](#)  

Viewed by 1281

Abstract Background/Objectives: Alzheimer's disease (AD) remains a progressive neurodegenerative disorder with limited therapeutic options. This study aimed to develop an integrative multi-omics computational pipeline to identify diagnostic biomarkers and prioritize druggable therapeutic targets for AD. **Methods:** We integrated transcriptomic data from 1047 samples (547 [...]) [Read more](#). (This article belongs to the Section **Drug Discovery, Development and Delivery (/journal/biomedicines/sections/Drug_Discovery))**

► [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00998/article_deploy/html/images/biomedicines-14-00998-g001-550.jpg?1777299780) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00998/article_deploy/html/images/biomedicines-14-00998-g002-550.jpg?1777299782) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00998/article_deploy/html/images/biomedicines-14-00998-g003-550.jpg?1777299786) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00998/article_deploy/html/images/biomedicines-14-00998-g004-550.jpg?1777299788) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00998/article_deploy/html/images/biomedicines-14-00998-g005-550.jpg?1777299791) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00998/article_deploy/html/images/biomedicines-14-00998-g006-550.jpg?1777299792) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00998/article_deploy/html/images/biomedicines-14-00998-g007-550.jpg?1777299796) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00998/article_deploy/html/images/biomedicines-14-00998-g008-550.jpg?1777299798) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00998/article_deploy/html/images/biomedicines-14-00998-g009-550.jpg?1777299802) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00998/article_deploy/html/images/biomedicines-14-00998-g010-550.jpg?1777299805) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00998/article_deploy/html/images/biomedicines-14-00998-g011-550.jpg?1777299808) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00998/article_deploy/html/images/biomedicines-14-00998-g012-550.jpg?1777299811) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00998/article_deploy/html/images/biomedicines-14-00998-g013-550.jpg?1777299814)

Open Access Article

15 pages, 2588 KB

[\(/2227-9059/14/5/997/pdf?version=1778492952\)](https://doi.org/10.3390/biomedicines14050998/pdf?version=1778492952) 

Sulforaphane Ameliorates High-Glucose-Induced Damage in a Diabetic Foot Ulcer Cell Model by Activating the Nrf2 Pathway to Improve Mitochondrial Function and Suppress Inflammation (/2227-9059/14/5/997)

by ~~Xiao Chen~~, Zhimin Yin, Rui Jiao, Hui Han, Liangcai Yuan and Jie Zhou

Biomedicines **2026**, *14*(5), 997; <https://doi.org/10.3390/biomedicines14050997> (<https://doi.org/10.3390/biomedicines14050997>) - 27 Apr 2026

Viewed by 658

 [\(/toggle_desktop_layout_cookie\)](#)  

Abstract Background/Objectives: Diabetic foot ulcers (DFUs) are a common and challenging complication of diabetes, significantly impacting the quality of life for patients due to impaired wound healing. Exploring effective and targeted therapies for DFUs is therefore both important and meaningful. Sulfonamide (SFN), a [...] **Read more.**

(This article belongs to the Section **Drug Discovery, Development and Delivery** (/journal/biomedicines/sections/Drug_Discovery/))

 **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00997/article_deploy/html/images/biomedicines-14-00997-g001-550.jpg?1778493069) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00997/article_deploy/html/images/biomedicines-14-00997-g002-550.jpg?1778493072) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00997/article_deploy/html/images/biomedicines-14-00997-g003-550.jpg?1778493075) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00997/article_deploy/html/images/biomedicines-14-00997-g004-550.jpg?1778493078) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00997/article_deploy/html/images/biomedicines-14-00997-g005-550.jpg?1778493080) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00997/article_deploy/html/images/biomedicines-14-00997-g006-550.jpg?1778493081)

Open Access Article

13 pages, 508 KB

[\(/2227-9059/14/5/996/pdf?version=1778666217\)](/2227-9059/14/5/996/pdf?version=1778666217) 

Three-Month Treatment with Monoclonal Antibodies Targeting the CGRP Pathway Is Associated with Multi-Domain Changes in Sensory Processing and Cortical Network Efficiency in Migraine: Results from a Prospective Case–Control Study (</2227-9059/14/5/996>)

by Lara Klehr, Anne Thiele, Merle Bendig, Christine Kloetzer, Thorsten Herr, Nursena Armagan, Sebastian Strauss and Robert Fleischmann

Biomedicines **2026**, *14*(5), 996; <https://doi.org/10.3390/biomedicines14050996> (<https://doi.org/10.3390/biomedicines14050996>) - 27 Apr 2026

Viewed by 619

Abstract Background/Objectives: Monoclonal antibodies targeting the calcitonin gene-related peptide (CGRP) pathway are effective drugs for migraine prevention. The worsening of symptoms after treatment discontinuation has raised the question of whether these agents are associated with sustained central neurophysiological adaptation. This study investigated treatment-associated changes [...] **Read more.**

(This article belongs to the Special Issue **Advances in Neurological Diseases: Pathogenesis, Diagnosis and Therapeutic Strategies (2nd Edition)** (/journal/biomedicines/special_issues/Z8S601TTKP))

 **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00996/article_deploy/html/images/biomedicines-14-00996-g001-550.jpg?1778666365) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00996/article_deploy/html/images/biomedicines-14-00996-g002-550.jpg?1778666367)

Open Access Review 27 pages, 1266 KB [\(/2227-9059/14/5/995/pdf?version=1778747711\)](https://doi.org/10.3390/biomedicines14050995)

Opioid-Induced Constipation: Mechanistic Insights, Experimental Models, and Future Perspectives (/2227-9059/14/5/995)

by Yujia Lin, Panpan Lu, Qiang Ding, Xiang Tao, Qinghai Tan and Mei Liu

Biomedicines **2026**, *14*(5), 995; <https://doi.org/10.3390/biomedicines14050995> (<https://doi.org/10.3390/biomedicines14050995>) - 27 Apr 2026

Viewed by 758

Abstract Opioid-induced constipation (OIC) represents a prevalent adverse effect of opioid analgesics, affecting 60–90% of patients and significantly compromising quality of life. This review delineates the multifactorial pathogenesis of OIC. Peripheral μ -opioid receptor (MOR) activation suppresses enteric neuronal excitability, inhibits intestinal motility and secretion, [...] **Read more.**

(This article belongs to the Special Issue **Advances in Pathogenesis and Therapeutics of Gastrointestinal Diseases (/journal/biomedicines/special_issues/18ARENUU9J)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00995/article_deploy/html/images/biomedicines-14-00995-g001-550.jpg?1778747825) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00995/article_deploy/html/images/biomedicines-14-00995-g002-550.jpg?1778747829)

Open Access Review 19 pages, 3578 KB [\(/2227-9059/14/5/994/pdf?version=1778494816\)](https://doi.org/10.3390/biomedicines14050994)

Mesenchymal Stem Cells in Fungal Infections: Immunomodulation, Direct Antifungal Activity, and the Promise of the Secretome (/2227-9059/14/5/994)

by Maya Nehemia, Hilit Cohen, Orly Gruzman, Tal Meushar Vega Amador, Shimon B. Levy, Sorina Grisaru-Granovsky and Ofra Ben Menachem-Zidon

Biomedicines **2026**, *14*(5), 994; <https://doi.org/10.3390/biomedicines14050994> (<https://doi.org/10.3390/biomedicines14050994>) - 27 Apr 2026

Viewed by 685

Abstract Mesenchymal stem/stromal cells (MSCs) are widely recognized as potent modulators of inflammation and immune function in bacterial and viral infections. However, their roles in fungal disease remain comparatively under-defined despite the growing clinical burden of invasive and opportunistic mycoses. This Feature Review synthesizes [...] **Read more.**

(This article belongs to the Special Issue **Feature Reviews in Mesenchymal Stem Cells (/journal/biomedicines/special_issues/FMI80B6630)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00994/article_deploy/html/images/

Revealing the Dynamic Association Between Lymphatic Endothelial Cell Markers and Intervertebral Disk Degeneration (/2227-9059/14/5/993)

by Qiang Zhang, Maoqiang Lin, Shishun Yan, Fei Huang and Haiyu Zhou

Biomedicines **2026**, *14*(5), 993; <https://doi.org/10.3390/biomedicines14050993> (<https://doi.org/10.3390/biomedicines14050993>) - 27 Apr 2026

Viewed by 626

Abstract Objective: This study aims to analyze the dynamic changes in lymphatic endothelial cell (LEC) markers during the progression of intervertebral disk degeneration (IDD) and to investigate their association with the progression of IDD. **Method:** In this study, intervertebral disk (IVD) specimens were first [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** (/journal/biomedicines/sections/medicine))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00993/article_deploy/html/images/biomedicines-14-00993-g001-550.jpg?1777280983) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00993/article_deploy/html/images/biomedicines-14-00993-g002-550.jpg?1777280986) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00993/article_deploy/html/images/biomedicines-14-00993-g003-550.jpg?1777280990) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00993/article_deploy/html/images/biomedicines-14-00993-g004-550.jpg?1777280994)

Factors Associated with Stage at Diagnosis in Pancreatic Cancer: Implications for Precision Screening and Early Detection (/2227-9059/14/5/992)

by Elen Deng, Manvita Mareboina, Ilias Georgakopoulos-Soares and Nelson S. Yee

Biomedicines **2026**, *14*(5), 992; <https://doi.org/10.3390/biomedicines14050992> (<https://doi.org/10.3390/biomedicines14050992>) - 27 Apr 2026

Viewed by 865

Abstract Pancreatic cancer is a leading cause of cancer-related mortality in the United States and worldwide. Most patients are diagnosed with pancreatic cancer at advanced stages, when curative therapy is no longer possible. The stage of pancreatic cancer at diagnosis critically impacts the treatment [...] **Read more.**

(This article belongs to the Section **Cancer Biology and Oncology** (/journal/biomedicines/sections/cancer))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00992/article_deploy/html/images/biomedicines-14-00992-g001-550.jpg?1778123561) (<https://pub.mdpi-res.com/biomedicines/>

 [biomedicines-14-00992/article_deploy/html/images/biomedicines-14-00992-g002-550.jpg?1778123563](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00992/article_deploy/html/images/biomedicines-14-00992-g002-550.jpg?1778123563) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00992/article_deploy/html/images/biomedicines-14-00992-g003-550.jpg?1778123566)  (/toggle_desktop_layout_cookie)  

Open Access Article 15 pages, 5507 KB [\(/2227-9059/14/5/991/pdf?version=1777193665\)](https://doi.org/10.3390/biomedicines14050991) 

Prognostic and Predictive Value of CD163+ Macrophages for Neoadjuvant Chemotherapy in Osteosarcoma (/2227-9059/14/5/991)

by Yuejun Luo, Bo Wang, Wanjiang Feng, Zibo Xu, Hongyu Wu, Ziming Yan, Haoyu Guo and Weifeng Liu

Biomedicines **2026**, *14*(5), 991; <https://doi.org/10.3390/biomedicines14050991> (<https://doi.org/10.3390/biomedicines14050991>) - 26 Apr 2026

Viewed by 818 

Abstract Background: The CD163+ macrophage is considered a key component of the tumor immune microenvironment (TIME) in osteosarcoma (OS) in relation to tumor progression and chemotherapy resistance. However, the relationship between CD163+ macrophage infiltration and the efficacy of neoadjuvant chemotherapy (NACT) in OS [...] **Read more.**

(This article belongs to the Special Issue **Macrophages and Immune Modulation in Cancer Therapy (/journal/biomedicines/special_issues/CAPTR56SPH)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00991/article_deploy/html/images/biomedicines-14-00991-g001-550.jpg?1777193875) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00991/article_deploy/html/images/biomedicines-14-00991-g002-550.jpg?1777193877) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00991/article_deploy/html/images/biomedicines-14-00991-g003-550.jpg?1777193878) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00991/article_deploy/html/images/biomedicines-14-00991-g004-550.jpg?1777193881)

Open Access Article 15 pages, 1145 KB [\(/2227-9059/14/5/990/pdf?version=1777176108\)](https://doi.org/10.3390/biomedicines14050990)

Baseline Interleukin-6 in Sepsis: Mortality Risk Stratification and Survival Analysis in a Prospective Cohort (/2227-9059/14/5/990)

by Raluca Terteșș, Lucian Cristian Petcu, Constantin Ionescu, Ionuț Bulbuc, Anca Daniela Pînzaru, Bogdan Florentin Nițu, Lavinia-Carmen Daba, Elena Mocanu, Stela Halichidis, Nicolae Cârciumar and Simona Claudia Cambrea

Biomedicines **2026**, *14*(5), 990; <https://doi.org/10.3390/biomedicines14050990> (<https://doi.org/10.3390/biomedicines14050990>) - 26 Apr 2026

Viewed by 1006

Abstract Background/Objectives: Sepsis is defined as life-threatening organ dysfunction caused by a dysregulated host response to infection. Identifying reliable biomarkers that reflect the underlying immune pathophysiology of sepsis and support early risk stratification remains a major clinical priority. This prospective study aimed to evaluate [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** (</journal/biomedicines/sections/medicine>))

► **Show Figures**

https://pub.mdpi-res.com/biomedicines/biomedicines-14-00990/article_deploy/html/images/biomedicines-14-00990-g001-550.jpg?1777176191) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00990/article_deploy/html/images/biomedicines-14-00990-g002-550.jpg?1777176192) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00990/article_deploy/html/images/biomedicines-14-00990-g003-550.jpg?1777176194) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00990/article_deploy/html/images/biomedicines-14-00990-g004-550.jpg?1777176195)

Open Access Article 19 pages, 2211 KB [\(/2227-9059/14/5/989/pdf?version=1777117671\)](/2227-9059/14/5/989/pdf?version=1777117671)

Osteopontin-4 (OPN-4) Suppresses Tumor Progression Features Whilst Sensitizing c643 Anaplastic Thyroid Cells to Sorafenib (</2227-9059/14/5/989>)

by Gabriela Ribeiro Silva, Amanda Lewis Rubim, Flavia da Cunha Vasconcelos, Luciana Bueno Ferreira, John Greenman and Etel Rodrigues Pereira Gimba
Biomedicines **2026**, *14*(5), 989; <https://doi.org/10.3390/biomedicines14050989> (<https://doi.org/10.3390/biomedicines14050989>) - 25 Apr 2026

Viewed by 943

Abstract Background/Objectives: Anaplastic thyroid carcinoma (ATC) is one of the most aggressive and lethal forms of malignant neoplasm of the endocrine system, and osteopontin (OPN) has been shown to be aberrantly expressed in this tumor type. Among the five OPN splicing isoforms (OPN-SI), [...] **Read more.**

(This article belongs to the Special Issue **Head and Neck Tumors, 4th Edition** (/journal/biomedicines/special_issues/4U7754W6CZ))

► **Show Figures**

https://pub.mdpi-res.com/biomedicines/biomedicines-14-00989/article_deploy/html/images/biomedicines-14-00989-g001-550.jpg?1777117769) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00989/article_deploy/html/images/biomedicines-14-00989-g002-550.jpg?1777117778) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00989/article_deploy/html/images/biomedicines-14-00989-g003-550.jpg?1777117781) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00989/article_deploy/html/images/biomedicines-14-00989-g004-550.jpg?1777117784) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00989/article_deploy/html/images/biomedicines-14-00989-g005-550.jpg?1777117788)

Open Access Article 13 pages, 2334 KB [\(/2227-9059/14/5/988/pdf?version=1777108006\)](/2227-9059/14/5/988/pdf?version=1777108006)

Cut or Count? Evaluating Advanced Fibrosis Assessment Tools in MASH and Chronic Viral Hepatitis (</2227-9059/14/5/988>)

by Ivana Milošević, Branko Beronja, Nada Tomanović, Marina Đelić, Nikola Mitrović, Dragana Kalajjanović and Ankica Vujović

Biomedicines **2026**, *14*(5), 988; <https://doi.org/10.3390/biomedicines14050988> (<https://doi.org/10.3390/biomedicines14050988>) - 25 Apr 2026

 [\(/toggle_desktop_layout_cookie\)](#)  

Viewed by 859

Abstract Background/Objectives: Chronic liver diseases, including metabolic dysfunction-associated steatohepatitis (MASH) and chronic viral hepatitis (CVH), are major global health concerns due to their potential progression to cirrhosis, liver failure, and hepatocellular carcinoma. Because liver biopsy, despite meeting the diagnostic gold standard, is invasive [...] **Read more.**

(This article belongs to the Special Issue **Viral Hepatitis: From Pathophysiology to Therapeutic Approaches** (/journal/biomedicines/special_issues/3L3PTFVT1O))

 **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00988/article_deploy/html/images/biomedicines-14-00988-g001-550.jpg?1777108190) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00988/article_deploy/html/images/biomedicines-14-00988-g002-550.jpg?1777108193) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00988/article_deploy/html/images/biomedicines-14-00988-g003-550.jpg?1777108195)

Open Access Article

11 pages, 1770 KB

(</2227-9059/14/5/987/pdf?version=1777106157>) 

Development and Validation of a Nomogram for Predicting Sepsis Risk in Patients with Non-Ventilator Hospital-Acquired Pneumonia (</2227-9059/14/5/987>)

by Han Zhou, Zhenchao Wu, Beibei Liu, Yipeng Du, Rui Wu and Ning Shen

Biomedicines **2026**, *14*(5), 987; <https://doi.org/10.3390/biomedicines14050987> (<https://doi.org/10.3390/biomedicines14050987>) - 25 Apr 2026

Viewed by 852

Abstract Objective: To identify risk factors for progression to sepsis in patients with non-ventilator hospital-acquired pneumonia (NV-HAP) and to develop a practical nomogram for individualized risk assessment in this population. **Methods:** We retrospectively screened 408 hospitalized patients with hospital-acquired pneumonia at Peking [...] **Read more.**

(This article belongs to the Special Issue **New Insights in Respiratory Diseases (2nd Edition)** (/journal/biomedicines/special_issues/QO7VH11671))

 **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00987/article_deploy/html/images/biomedicines-14-00987-g001-550.jpg?1777106246) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00987/article_deploy/html/images/biomedicines-14-00987-g002-550.jpg?1777106247) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00987/article_deploy/html/images/biomedicines-14-00987-g003-550.jpg?1777106249)

Open Access Article

16 pages, 10802 KB

(</2227-9059/14/5/986/pdf?version=1778494939>)

Exosomal miR-373-3p Derived from Docetaxel-Resistant Lung Cancer Cells Targets PDCD4 to

Promote Proliferation and Inhibit Apoptosis in Lung Cancer Cells (/2227-9059/14/5/986)

by **MDPI** (I)
by Yuan Yuan, Buyi Zhu, Linfei Yang, Yumu Leng, Feifei Chen, Zhenhua Yang, Wei Gu and Kai Zhang

Biomedicines **2026**, *14*(5), 986; <https://doi.org/10.3390/biomedicines14050986> (https://doi.org/10.3390/biomedicines14050986) - 25 Apr 2026

Viewed by 766

Abstract Background: Lung cancer ranks among the most common and deadly malignant tumors worldwide. Drug resistance is a critical factor hindering the effect of chemotherapy for lung cancer. Exosomes, as intercellular signaling molecule carriers, play an important role in carcinogenesis, metastasis and drug resistance. [...] **Read more.**

(This article belongs to the Special Issue **RNA Therapy in Cancer Treatment: From Design to Clinical Translation (/journal/biomedicines/special_issues/4FSIWZ75W6))**

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00986/article_deploy/html/images/biomedicines-14-00986-g001-550.jpg?1778495058) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00986/article_deploy/html/images/biomedicines-14-00986-g002-550.jpg?1778495061) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00986/article_deploy/html/images/biomedicines-14-00986-g003-550.jpg?1778495063) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00986/article_deploy/html/images/biomedicines-14-00986-g004-550.jpg?1778495065) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00986/article_deploy/html/images/biomedicines-14-00986-g005-550.jpg?1778495068) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00986/article_deploy/html/images/biomedicines-14-00986-g006-550.jpg?1778495070)

Open Access Review

17 pages, 6344 KB

(/2227-9059/14/5/985/pdf?version=1777104118)

From Epigenetic Constraint to Evolutionary Escape: Cell-State Transitions and Selective Pressures During Malignant Transformation in Lower-Grade Gliomas (/2227-9059/14/5/985)

by Hao Wu, Yi Wei, Xing-Ding Zhang and Lin Qi

Biomedicines **2026**, *14*(5), 985; <https://doi.org/10.3390/biomedicines14050985> (https://doi.org/10.3390/biomedicines14050985) - 25 Apr 2026

Viewed by 933

Abstract Lower-grade gliomas (LGGs) often follow a relatively protracted clinical course; however, a substantial proportion eventually undergo malignant transformation to high-grade, treatment-refractory disease. This process has traditionally been interpreted in the context of stepwise histopathologic progression and recurrent genetic alterations. Increasing evidence, however, suggests [...] **Read more.**

(This article belongs to the Special Issue **Brain Tumor: From Pathophysiology to Novel Therapies (/journal/biomedicines/special_issues/3470W016WL))**

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00985/article_deploy/html/images/

Predictors of First Anti-TNF Treatment Failure in Patients with Inflammatory Bowel Disease: A Single-Center Cohort Study ([/2227-9059/14/5/984](https://doi.org/10.3390/biomedicines14050984))

by Konstantinos C. Mpakogiannis, Paraskevi Chasani, Ioanna Nefeli Mastorogianni, Konstantinos H. Katsanos and Fotios S. Fousekis

Biomedicines **2026**, *14*(5), 984; <https://doi.org/10.3390/biomedicines14050984> (<https://doi.org/10.3390/biomedicines14050984>) - 24 Apr 2026

Viewed by 1300

Abstract Introduction: Despite proven efficacy of anti-TNF agents in inflammatory bowel disease, primary non-response affects up to one-third of patients, while secondary loss of response occurs at 13–21% per patient-year, often requiring dose optimization or switching to alternative advanced therapies.

Methods: The [...] [Read more.](#)

(This article belongs to the Special Issue **Translational Immunology in Inflammatory Bowel Diseases: From Mechanisms to Precision Medicine** ([/journal/biomedicines/special_issues/EXJ73NW7UW](https://doi.org/10.3390/biomedicines14050984)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00984/article_deploy/html/images/biomedicines-14-00984-g001-550.jpg?1778138881) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00984/article_deploy/html/images/biomedicines-14-00984-g002-550.jpg?1778138884) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00984/article_deploy/html/images/biomedicines-14-00984-g003-550.jpg?1778138887) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00984/article_deploy/html/images/biomedicines-14-00984-g004-550.jpg?1778138888) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00984/article_deploy/html/images/biomedicines-14-00984-g005-550.jpg?1778138890) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00984/article_deploy/html/images/biomedicines-14-00984-g006-550.jpg?1778138892)

Integrated Molecular Docking and Network-Based Analysis Reveals Multitarget Interaction Patterns of Nutraceutical Compounds in Intervertebral Disc Degeneration ([/2227-9059/14/5/983](https://doi.org/10.3390/biomedicines14050983))

by Ersin Guner, Omer Faruk Yilmaz, Muharrem Furkan Yuzbasi, Mehmet Albayrak, Fatih Ugur and Ibrahim Yilmaz

Biomedicines **2026**, *14*(5), 983; <https://doi.org/10.3390/biomedicines14050983> (<https://doi.org/10.3390/biomedicines14050983>) - 24 Apr 2026

Viewed by 989

Abstract Background: Intervertebral disc degeneration (IVDD) is driven by the interplay between inflammatory signaling, extracellular matrix (ECM) degradation, and impaired cellular adaptation. Although several nutraceutical compounds have been reported to exert protective effects in IVDD-related models, their multitarget mechanisms within integrated molecular networks are not clear. [Read more](#) (This article belongs to the Section **Drug Discovery, Development and Delivery** ([/journal/biomedicines/sections/Drug_Discovery](#)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00983/article_deploy/html/images/biomedicines-14-00983-g001-550.jpg?1777040798) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00983/article_deploy/html/images/biomedicines-14-00983-g002-550.jpg?1777040800) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00983/article_deploy/html/images/biomedicines-14-00983-g003-550.jpg?1777040801) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00983/article_deploy/html/images/biomedicines-14-00983-g004-550.jpg?1777040803) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00983/article_deploy/html/images/biomedicines-14-00983-g005-550.jpg?1777040805) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00983/article_deploy/html/images/biomedicines-14-00983-g006-550.jpg?1777040806) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00983/article_deploy/html/images/biomedicines-14-00983-g007-550.jpg?1777040808) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00983/article_deploy/html/images/biomedicines-14-00983-g008-550.jpg?1777040810) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00983/article_deploy/html/images/biomedicines-14-00983-g009-550.jpg?1777040811) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00983/article_deploy/html/images/biomedicines-14-00983-g010-550.jpg?1777040811)

Open Access Review

26 pages, 867 KB

([/2227-9059/14/5/982/pdf?version=1778485307](#))

Extracellular Vesicles as Mediators of Endothelial and Tubular Injury in Cardiac Surgery-Associated Acute Kidney Injury ([/2227-9059/14/5/982](#))

by Elena Grossini, Teresa Esposito, Mohammad Mostafa Ola Pour, Carlo Smirne, Giovanni Casali, Mario Pirisi, Vincenzo Cantaluppi, Daniele Pierelli, Rosanna Vaschetto and Sakthipriyan Venkatesan

Biomedicines **2026**, *14*(5), 982; <https://doi.org/10.3390/biomedicines14050982> (<https://doi.org/10.3390/biomedicines14050982>) - 24 Apr 2026

Viewed by 1018

Abstract Cardiac surgery represents a cornerstone of modern cardiovascular medicine, yet it is intrinsically linked to significant systemic stress responses that can compromise remote organ function. Among postoperative complications, cardiac surgery-associated acute kidney injury (CSA-AKI) remains a significant clinical challenge characterized by high morbidity [...]. [Read more](#).

(This article belongs to the Special Issue **Cardiovascular and Metabolic Disease: New Treatment and**

MDPI
► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00982/article_deploy/html/images/biomedicines-14-00982-g001-550.jpg?1778485398)

Open Access Article

15 pages, 4184 KB

(/2227-9059/14/5/981/pdf?version=1777461756)

Ribosome-Inactivating Proteins from *Salsola soda* L. and *Saponaria officinalis* L. Are Promising Candidates for Targeted Therapy of Colon Cancer (/2227-9059/14/5/981)

by Francesco Biscotti, Sara Ragucci, Massimo Bortolotti, Federica Falà, Chiara Perrone, Nicola Landi, Andrea Bolognesi, Antimo Di Maro and Letizia Polito

Biomedicines **2026**, *14*(5), 981; <https://doi.org/10.3390/biomedicines14050981> (<https://doi.org/10.3390/biomedicines14050981>) - 24 Apr 2026

Viewed by 1011

Abstract Background/Objectives: Ribosome-inactivating proteins (RIPs) are plant-derived enzymes with potent cytotoxic activity, widely studied as anticancer agents, particularly as toxic payloads in immunoconjugates. Despite numerous encouraging results reported, their clinical application has been limited by their immunogenicity. RIPs from edible plants have been [...] **Read more.**

(This article belongs to the Special Issue **Women's Special Issue Series: Biomedicines (2nd Edition)** (./journal/biomedicines/special_issues/R0F36426F6))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00981/article_deploy/html/images/biomedicines-14-00981-ag-550.jpg?1777461876) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00981/article_deploy/html/images/biomedicines-14-00981-g001-550.jpg?1777461866) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00981/article_deploy/html/images/biomedicines-14-00981-g002-550.jpg?1777461867) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00981/article_deploy/html/images/biomedicines-14-00981-g003-550.jpg?1777461869) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00981/article_deploy/html/images/biomedicines-14-00981-g004-550.jpg?1777461871) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00981/article_deploy/html/images/biomedicines-14-00981-g005-550.jpg?1777461873)

Open Access Article

14 pages, 414 KB

(/2227-9059/14/5/980/pdf?version=1777033617)

Real-World Association of SGLT2 Inhibitors with Mortality in Very Elderly Patients with HFrEF and CKD (/2227-9059/14/5/980)

by Antonio José Bolas Becerra, Marcelino Cortés García, Jorge Balaguer Germán, Carlos Rodríguez-López, José María Romero Otero, José Antonio Esteban Chapel, Luis Nieto Roca, Mikel Taibo Urquía, Ana María Pello Lázaro and José Tuñón

Biomedicines **2026**, *14*(5), 980; <https://doi.org/10.3390/biomedicines14050980> (<https://doi.org/10.3390/biomedicines14050980>) - 24 Apr 2026

Viewed by 1143

MDPI

Abstract Background: Heart failure with reduced ejection fraction (HFrEF) and chronic kidney disease (CKD) are common in the growing population of elderly patients, yet little evidence specifically targeting this population exists. The purpose of this study is to analyze the effect of SGLT2 [...]

(This article belongs to the Special Issue **New Advances in Cardiovascular Drugs: In Memory of Professor Akira Endo (2nd Edition)** (/journal/biomedicines/special_issues/Y1PUYKV809))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00980/article_deploy/html/images/biomedicines-14-00980-g001-550.jpg?1777033690)

Open Access Editorial

5 pages, 184 KB

(</2227-9059/14/5/979/pdf?version=1777024141>)

Editorial of Special Issue “Molecular Research and Recent Advances in Diabetic Retinopathy: Second Edition” (</2227-9059/14/5/979>)

by Tomislav Bulum and Martina Tomić

Biomedicines **2026**, *14*(5), 979; <https://doi.org/10.3390/biomedicines14050979> (<https://doi.org/10.3390/biomedicines14050979>) - 24 Apr 2026

Viewed by 778

Abstract Diabetes is a global pandemic and, with its chronic complications, represents a major health issue worldwide, as 12 [...]

Full article (</2227-9059/14/5/979>)

(This article belongs to the Section **Molecular and Translational Medicine** (</journal/biomedicines/sections/medicine>))

Open Access Review

19 pages, 1031 KB

(</2227-9059/14/5/978/pdf?version=1777017029>)

Post-Translational Modifications of NTCP: A Regulatory Nexus for Bile Acid Transport and HBV Entry (</2227-9059/14/5/978>)

by Fei Yu, Yue Zhu, Na Li, Qing Peng, Fanghang Ye, Qianlan Luo, Jiajun Xia and Xiaoyu Hu

Biomedicines **2026**, *14*(5), 978; <https://doi.org/10.3390/biomedicines14050978> (<https://doi.org/10.3390/biomedicines14050978>) - 24 Apr 2026

Viewed by 1109

Abstract The sodium-taurocholate cotransporting polypeptide (NTCP) plays a critical dual role in liver function: maintaining bile acid (BA) enterohepatic circulation and acting as a receptor for the entry of hepatitis B and D viruses into hepatocytes. This review outlines the impact of various post-translational [...]

Read more.

(This article belongs to the Section **Cell Biology and Pathology** (/journal/biomedicines/sections/cell_pathology))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00978/article_deploy/html/images/biomedicines-14-00978-g001-550.jpg?1777017098) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00978/article_deploy/html/images/biomedicines-14-00978-g002-550.jpg?1777017100)

Interplay of Vitamin D3, Wnt/ β -Catenin Pathway, and Oxidative DNA Injury in CMS-Induced Depression Model [_\(/2227-9059/14/5/977\)](https://doi.org/10.3390/biomedicines14050977)

by May M. Alrashed, Hajera Tabassum, Dara Aldisi, Maha H. Alhussain, Sadia Arjumand and Mahmoud M. A. Abulmeaty

Biomedicines **2026**, *14*(5), 977; <https://doi.org/10.3390/biomedicines14050977> (<https://doi.org/10.3390/biomedicines14050977>) - 24 Apr 2026

Viewed by 999

Abstract Background/Objectives: Chronic Mild Stress (CMS) provokes neuroendocrine dysregulation and oxidative injury that compromise neuronal integrity and plasticity. Disruption of the canonical Wnt/ β -catenin signaling pathway has been increasingly linked to stress-induced neurobiological dysfunction. Vitamin D3, a neuroactive hormone with antioxidant and immunomodulatory properties, [...] [Read more](#). (This article belongs to the Special Issue [Animal Models for Neurological Disease Research](#) (/journal/biomedicines/special_issues/OOL9A16621))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00977/article_deploy/html/images/biomedicines-14-00977-g001-550.jpg?1777019247) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00977/article_deploy/html/images/biomedicines-14-00977-g002-550.jpg?1777019247) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00977/article_deploy/html/images/biomedicines-14-00977-g003-550.jpg?1777019247) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00977/article_deploy/html/images/biomedicines-14-00977-g004-550.jpg?1777019248)

The Gut–Muscle Axis in Sarcopenia: Mechanisms, Evidence Gaps and Translational Challenges [_\(/2227-9059/14/5/976\)](https://doi.org/10.3390/biomedicines14050976)

by Stefano Andrea Marchitto, Gabriele Abbatecola, Rola S. Zeidan, Lauren Morgan, Riccardo Calvani, Anna Picca, Mathias Schlögl, Matteo Tosato, Christiaan Leeuwenburgh, Stephen D. Anton, Francesco Landi, Emanuele Marzetti and Stefano Cacciatore

Biomedicines **2026**, *14*(5), 976; <https://doi.org/10.3390/biomedicines14050976> (<https://doi.org/10.3390/biomedicines14050976>) - 23 Apr 2026

Viewed by 2534

Abstract Sarcopenia is an age-related skeletal muscle disorder characterized by reduced muscle mass, strength, and physical performance, as well as increased risk of disability, hospitalization, and mortality. Emerging evidence suggests that gut microbiota alterations may contribute to muscle decline via a microbiota–gut–muscle axis, acting [...] [Read more](#).

(This article belongs to the Special Issue [Advances in Age-Related Diseases: Molecular Mechanisms, Treatments, and Clinical Implications](#) (/journal/biomedicines/special_issues/WR55W490LN))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00976/article_deploy/html/images/biomedicines-14-00976-g001-550.jpg?1777531483) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00976/article_deploy/html/images/biomedicines-14-00976-g002-550.jpg?1777531484)

Open Access Article 22 pages, 6377 KB ([/2227-9059/14/5/975/pdf?version=1776955553](https://doi.org/10.3390/biomedicines14050975))

Integrative Transcriptomic Analysis Identifies COL3A1 as a Potential Tumor-Intrinsic Therapeutic Target in NSCLC (/2227-9059/14/5/975)

by Kaicheng Zhou, Yanyang Nan, Mengyang Li, Dongyue Hou, Caili Xu, Haiyan Yu, Jun Feng, Dianwen Ju and Ziyu Wang

Biomedicines **2026**, *14*(5), 975; <https://doi.org/10.3390/biomedicines14050975> (<https://doi.org/10.3390/biomedicines14050975>) - 23 Apr 2026

Viewed by 950

Abstract Background: Non-small cell lung cancer (NSCLC) remains a leading cause of cancer-related mortality, and although PD-1/PD-L1 immune checkpoint blockade has improved outcomes in some patients, therapeutic responses remain heterogeneous. Tumor-intrinsic heterogeneity within malignant epithelial populations is increasingly recognized as a critical determinant of [...] **Read more.**

(This article belongs to the Section **Cancer Biology and Oncology (/journal/biomedicines/sections/cancer)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00975/article_deploy/html/images/biomedicines-14-00975-ag-550.jpg?1777376758) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00975/article_deploy/html/images/biomedicines-14-00975-g001-550.jpg?1776955630) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00975/article_deploy/html/images/biomedicines-14-00975-g002-550.jpg?1776955633) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00975/article_deploy/html/images/biomedicines-14-00975-g003-550.jpg?1776955637) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00975/article_deploy/html/images/biomedicines-14-00975-g004-550.jpg?1776955640) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00975/article_deploy/html/images/biomedicines-14-00975-g005-550.jpg?1776955643) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00975/article_deploy/html/images/biomedicines-14-00975-g006-550.jpg?1776955646) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00975/article_deploy/html/images/biomedicines-14-00975-g007-550.jpg?1776955650)

Open Access Article 21 pages, 3411 KB ([/2227-9059/14/5/974/pdf?version=1778579135](https://doi.org/10.3390/biomedicines14050974))

Expression of HSP70, IGF-1, OCT4, and AIF in Clear Cell Renal Cell Carcinoma (/2227-9059/14/5/974)

by Matea Buljubašić Franić, Petar Todorović, Ivana Tica Sedlar, Natalija Filipović, Nela Kelam,

Abstract Background/Objectives: Clear cell renal cell carcinoma is the most common subtype of kidney cancer and exhibits marked biological heterogeneity, even among tumors of the same histological grade. Although tumor grade remains a key prognostic parameter, the molecular alterations associated with tumor differentiation [...] **Read more.**

(This article belongs to the Section **Cancer Biology and Oncology** (</journal/biomedicines/sections/cancer/>))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00974/article_deploy/html/images/biomedicines-14-00974-g001-550.jpg?1778579217) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00974/article_deploy/html/images/biomedicines-14-00974-g002-550.jpg?1778579222) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00974/article_deploy/html/images/biomedicines-14-00974-g003-550.jpg?1778579226) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00974/article_deploy/html/images/biomedicines-14-00974-g004-550.jpg?1778579228) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00974/article_deploy/html/images/biomedicines-14-00974-g005-550.jpg?1778579231) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00974/article_deploy/html/images/biomedicines-14-00974-g006-550.jpg?1778579233)

Open Access Article

16 pages, 3065 KB

[\(/2227-9059/14/5/973/pdf?version=1776952228\)](/2227-9059/14/5/973/pdf?version=1776952228) 

TAF1 Suppresses MHC-I Expression and Correlates with Poor Immunotherapy Response in Small Cell Lung Cancer (</2227-9059/14/5/973>)

by Qing Gao, Kehong Wei, Deshen Pan, Yufei Xi, Chaoliang Xu and Deshui Jia

Biomedicines **2026**, *14*(5), 973; <https://doi.org/10.3390/biomedicines14050973> (<https://doi.org/10.3390/biomedicines14050973>) - 23 Apr 2026

Viewed by 798

Abstract Background: Small cell lung cancer (SCLC) is an aggressive neuroendocrine tumor characterized by an intrinsic resistance to immunotherapy, primarily due to its low immunogenicity and immune-cold tumor microenvironment. The mechanisms underlying this resistance remain poorly understood. **Methods:** A systematic screen of 796 epigenetic [...] **Read more.**

(This article belongs to the Special Issue **Epigenetics and Immune Perspectives in Cancer: Overcoming Therapy Resistance** (/journal/biomedicines/special_issues/81UQ85743Z))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00973/article_deploy/html/images/biomedicines-14-00973-g001-550.jpg?1776952308) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00973/article_deploy/html/images/biomedicines-14-00973-g002-550.jpg?1776952308)

 (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00973/article_deploy/html/images/biomedicines-14-00973-g003-550.jpg?1776952314) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00973/article_deploy/html/images/biomedicines-14-00973-g004-550.jpg?1776952318) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00973/article_deploy/html/images/biomedicines-14-00973-g005-550.jpg?1776952322) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00973/article_deploy/html/images/biomedicines-14-00973-g006-550.jpg?1776952323)

Open Access Article

13 pages, 2837 KB

[\(/2227-9059/14/5/972/pdf?version=1778489730\)](https://doi.org/10.3390/biomedicines14050972) 

Dynamic Surveillance of Minimal Residual Disease via a Tumor-Informed Circulating Tumor DNA Assay for Outcome Prediction in Small-Cell Lung Cancer: An Exploratory Pilot Study
[\(/2227-9059/14/5/972\)](https://doi.org/10.3390/biomedicines14050972)

by Qiuyi Zhang, Die Dai, Yikun Yang, Lihong Guo, Jiesheng Su, Shiqi Lyu, Suni Huang, Meng Zhang and Jianhua Chang

Biomedicines **2026**, *14*(5), 972; <https://doi.org/10.3390/biomedicines14050972> (<https://doi.org/10.3390/biomedicines14050972>) - 23 Apr 2026

Viewed by 665

Abstract Background: Small-cell lung cancer (SCLC) represents an aggressive malignancy associated with a poor prognosis, underscoring the critical demand for enhanced monitoring methodologies. Circulating tumor DNA (ctDNA) constitutes a promising non-invasive biomarker; however, reports employing highly sensitive tumor-informed assays in SCLC remain scarce. [...] **Read more.** (This article belongs to the Special Issue **Emerging Technologies in Liquid Biopsy of Cancers** ([/journal/biomedicines/special_issues/54U9MM65AM](https://journal.biomedicines/special_issues/54U9MM65AM)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00972/article_deploy/html/images/biomedicines-14-00972-g001-550.jpg?1778489818) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00972/article_deploy/html/images/biomedicines-14-00972-g002-550.jpg?1778489819) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00972/article_deploy/html/images/biomedicines-14-00972-g003-550.jpg?1778489820) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00972/article_deploy/html/images/biomedicines-14-00972-g004-550.jpg?1778489821) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00972/article_deploy/html/images/biomedicines-14-00972-g005-550.jpg?1778489822) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00972/article_deploy/html/images/biomedicines-14-00972-g006-550.jpg?1778489823)

Open Access Article

9 pages, 1496 KB

[\(/2227-9059/14/5/971/pdf?version=1778473276\)](https://doi.org/10.3390/biomedicines14050971)

miR-214 Promotes Aggressive Behavior in Triple-Negative Breast Cancer by Functionally Targeting the 3'-UTR of FRK ([/2227-9059/14/5/971](https://doi.org/10.3390/biomedicines14050971))

by  Serin Moon, Sooeun Oh, Dong-Min Kim, Jieun Lee and Ahwon Lee

Biomedicines **2026**, *14*(5), 971; <https://doi.org/10.3390/biomedicines14050971> (<https://doi.org/10.3390/biomedicines14050971>) - 23 Apr 2026

Viewed by 534

 [\(/toggle_desktop_layout_cookie\)](#)  

Abstract Background/Objectives: MicroRNAs (miRNAs) are key regulators of gene expression and have been implicated in multiple aspects of cancer progression. However, the role of miR-214-3p in breast cancer remains controversial. In this study, we investigated the functional role of miR-214-3p and explored its [...] [Read more.](#)

(This article belongs to the Section [Molecular and Translational Medicine \(/journal/biomedicines/sections/medicine\)](#))

 [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00971/article_deploy/html/images/biomedicines-14-00971-g001-550.jpg?1778473431) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00971/article_deploy/html/images/biomedicines-14-00971-g002-550.jpg?1778473434) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00971/article_deploy/html/images/biomedicines-14-00971-g003a-550.jpg?1778473436) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00971/article_deploy/html/images/biomedicines-14-00971-g003b-550.jpg?1778473439)

Open Access Article

16 pages, 581 KB

[\(/2227-9059/14/5/970/pdf?version=1778574496\)](#)

Hair Trace Element Imbalance in Smokers with HFpEF: A Pilot Study of Micronutrient and Metal Homeostasis ([/2227-9059/14/5/970](#))

by Beata Krasińska, Tomasz Urbanowicz, Ievgen Spasenenko, Krzysztof J. Filipiak, Krzysztof Bartuś, Zbigniew Krasiński, Andrzej Tykarski and Anetta Hanć

Biomedicines **2026**, *14*(5), 970; <https://doi.org/10.3390/biomedicines14050970> (<https://doi.org/10.3390/biomedicines14050970>) - 23 Apr 2026

Viewed by 669

Abstract Background: Trace elements function as essential micronutrients involved in oxidative balance, mitochondrial activity, and cardiovascular metabolism. Cigarette smoking represents a significant source of toxic metals and may disrupt systemic trace element homeostasis. Alterations in micronutrient and metal balance may contribute to oxidative stress, [...] [Read more.](#)

(This article belongs to the Section [Molecular and Translational Medicine \(/journal/biomedicines/sections/medicine\)](#))

 [Show Figures](#)

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00970/article_deploy/html/images/biomedicines-14-00970-g001-550.jpg?1778574589) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00970/article_deploy/html/images/biomedicines-14-00970-g002-550.jpg?1778574590)

Open Access Perspective

16 pages, 1196 KB

[\(/2227-9059/14/5/969/pdf?version=1778489172\)](#)

Microbiome-Based Therapies in Ulcerative Colitis: Mechanisms, Clinical Evidence, and a Precision Medicine Framework (/2227-9059/14/5/969)

by **Philippe Pinton**

Biomedicines **2026**, *14*(5), 969; <https://doi.org/10.3390/biomedicines14050969> (https://doi.org/10.3390/biomedicines14050969) - 23 Apr 2026

Cited by 1 (/2227-9059/14/5/969#metrics) | Viewed by 528

Abstract Microbiome-based therapies are reshaping the therapeutic landscape for ulcerative colitis (UC), offering new avenues for disease management beyond conventional immunomodulatory and biologic treatments. UC remains a chronic, relapsing condition with significant unmet clinical needs, as many patients fail to achieve sustained remission or [...] **Read more.**

(This article belongs to the Special Issue **Crohn's Disease and Ulcerative Colitis: From Pathophysiology to Novel Therapeutic Approaches (3rd Edition)** (/journal/biomedicines/special_issues/FPW7F39XR7))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00969/article_deploy/html/images/biomedicines-14-00969-g001-550.jpg?1778489295) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00969/article_deploy/html/images/biomedicines-14-00969-g002-550.jpg?1778489297)

Open Access Review

27 pages, 7181 KB

(/2227-9059/14/5/968/pdf?version=1778481387) 

The Endocannabinoid System in Neuropsychiatric Disorders: Mechanisms, Dysregulation and Therapeutic Potential (/2227-9059/14/5/968)

by **Timur Mušić** and **Tamara Lah Turnšek**

Biomedicines **2026**, *14*(5), 968; <https://doi.org/10.3390/biomedicines14050968> (https://doi.org/10.3390/biomedicines14050968) - 23 Apr 2026

Viewed by 981

Abstract The endocannabinoid system (ECS) is a fundamental regulator of brain and body homeostasis, integrating neural, immune, and stress-related signaling pathways. Dysregulation of ECS components, including cannabinoid receptors (CB1 and CB2), endocannabinoids such as anandamide (AEA) and 2-arachidonoylglycerol (2-AG), and their metabolic enzymes (FAAH [...]) **Read more.**

(This article belongs to the Special Issue **Cannabinoids in Therapeutics: Mechanisms, Signaling Pathways and Personalized Treatment Strategies** (/journal/biomedicines/special_issues/P2GR89B80N))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00968/article_deploy/html/images/biomedicines-14-00968-g001-550.jpg?1778481482) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00968/article_deploy/html/images/biomedicines-14-00968-g002-550.jpg?1778481482) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00968/article_deploy/html/images/biomedicines-14-00968-g003-550.jpg?1778481483) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00968/article_deploy/html/images/biomedicines-14-00968-g004-550.jpg?1778481484)

Molecular Determinants of Thyroid Cancer Progression: Thyroid Hormone Signaling, the BRAF/ MAPK Pathway, and Emerging miRNA Biomarkers (/2227-9059/14/5/967)by **Marina Lasa** and **Constanza Contreras-Jurado***Biomedicines* **2026**, *14*(5), 967; <https://doi.org/10.3390/biomedicines14050967> (<https://doi.org/10.3390/biomedicines14050967>) - 23 Apr 2026

Viewed by 618

Abstract Thyroid cancer is the most common malignancy of the endocrine system and represents a biologically heterogeneous disease driven by the interplay between endocrine regulation, oncogenic signaling pathways, and tumor microenvironment dynamics. Although most follicular cell-derived thyroid cancers follow an indolent clinical course, a [...] **Read more.**(This article belongs to the Special Issue **Thyroid Cancer: Molecular and Translational Aspects on Carcinogenesis and Treatment (/journal/biomedicines/special_issues/Y7S45679K8))****► Show Figures**https://pub.mdpi-res.com/biomedicines/biomedicines-14-00967/article_deploy/html/images/biomedicines-14-00967-g001-550.jpg?1778500117 (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00967/article_deploy/html/images/biomedicines-14-00967-g002-550.jpg?1778500120)**Seminal Fluid Biomarkers for Early Cancer Detection: A Systematic Review (/2227-9059/14/5/966)**by **Guzel R. Sagitova**, **Anna V. Slizova**, **Andrey O. Morozov**, **Anastasia S. Fatyanova**, **Majid Ebrahimi Warkiani**, **Andrei V. Zvyagin** and **Alexey S. Rzhevskiy***Biomedicines* **2026**, *14*(5), 966; <https://doi.org/10.3390/biomedicines14050966> (<https://doi.org/10.3390/biomedicines14050966>) - 23 Apr 2026

Viewed by 737

Abstract Background: The early detection of prostate and testicular tumors remains challenging as standard diagnostic tools often lack sensitivity and produce ambiguous results. Seminal fluid is a biologically rich medium that closely reflects the state of male reproductive tissues and has therefore emerged as [...] **Read more.**(This article belongs to the Special Issue **Urogenital Cancers: New Molecular and Translational Aspects on Carcinogenesis and Treatments (2nd Edition) (/journal/biomedicines/special_issues/T505GU8MW6))****► Show Figures**https://pub.mdpi-res.com/biomedicines/biomedicines-14-00966/article_deploy/html/images/biomedicines-14-00966-g001-550.jpg?1776946838**Is the Placenta an Immune Battlefield in Oocyte Donation? Histological Evidence of Graft-Versus-**

Host-Like Phenomena in Triplet Pregnancies and the Development of PARS (Placental Allograft Rejection-Like Score) (/2227-9059/14/5/965)

by Eva Manuela Pena-Burgos, Jose Juan Pozo-Kreilinger, Rita María Regojo-Zapata and María De La Calle

 [\(/toggle_desktop_layout_cookie\)](#)  

Biomedicines **2026**, *14*(5), 965; <https://doi.org/10.3390/biomedicines14050965> (<https://doi.org/10.3390/biomedicines14050965>) - 23 Apr 2026

Viewed by 470

Abstract Background/Objectives: Oocyte donation (OD) pregnancies involve complete maternal–fetal genetic disparity and are associated with increased placental dysfunction and adverse perinatal outcomes. However, a unified histopathological framework to characterize alloimmune-mediated placental injury in OD gestations is lacking. This study evaluates immune and vascular [...] **Read more.**

(This article belongs to the Section **Immunology and Immunotherapy (/journal/biomedicines/sections/immuno)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00965/article_deploy/html/images/biomedicines-14-00965-g001-550.jpg?1776946173) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00965/article_deploy/html/images/biomedicines-14-00965-g002-550.jpg?1776946177) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00965/article_deploy/html/images/biomedicines-14-00965-g003-550.jpg?1776946181) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00965/article_deploy/html/images/biomedicines-14-00965-g004-550.jpg?1776946182)

Open Access Review

52 pages, 4244 KB

[\(/2227-9059/14/5/964/pdf?version=1779359342\)](#)

Immunomodulatory Nanomaterials: Design Strategies, Mechanisms, Biomedical Applications, and Future Perspectives (/2227-9059/14/5/964)

by Maharshi Thalla, Sumedha Kapre, Sushesh Srivatsa Palakurthi, Praveen Kolimi, Ravi Akkireddy, Geetha Satya Sainaga Jyothi Vaskuri, Nagavendra Kommineni, Rahul Sharma, Jae D. Kim and Srinath Palakurthi

Biomedicines **2026**, *14*(5), 964; <https://doi.org/10.3390/biomedicines14050964> (<https://doi.org/10.3390/biomedicines14050964>) - 23 Apr 2026

Cited by 1 (/2227-9059/14/5/964#metrics) | Viewed by 790

Abstract The utilization of immunomodulatory nanomaterials, i.e., leveraging their unique properties to enhance immune responses, represents a transformative approach for the treatment of various diseases. Recent advancements in nanotechnology have enabled the design of nanomaterials capable of delivering immunomodulatory agents in a targeted manner, [...] **Read more.**

(This article belongs to the Special Issue **Nanotechnology in Pharmaceuticals (/journal/biomedicines/special_issues/L5U6395YR7)**)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00964/article_deploy/html/images/biomedicines-14-00964-ag-550.jpg?1779359473) (<https://pub.mdpi-res.com/biomedicines/>

 [biomedicines-14-00964/article_deploy/html/images/biomedicines-14-00964-g001-550.jpg?1779359448](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00964/article_deploy/html/images/biomedicines-14-00964-g001-550.jpg?1779359448)) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00964/article_deploy/html/images/biomedicines-14-00964-g002-550.jpg?1779359452) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00964/article_deploy/html/images/biomedicines-14-00964-g003-550.jpg?1779359456) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00964/article_deploy/html/images/biomedicines-14-00964-g004-550.jpg?1779359458) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00964/article_deploy/html/images/biomedicines-14-00964-g005-550.jpg?1779359462) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00964/article_deploy/html/images/biomedicines-14-00964-g006-550.jpg?1779359465) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00964/article_deploy/html/images/biomedicines-14-00964-g007-550.jpg?1779359470)

Open Access Review

32 pages, 3481 KB

[\(/2227-9059/14/5/963/pdf?version=1778319650\)](https://doi.org/10.3390/biomedicines14050963/pdf?version=1778319650)

Retinal Outcomes in Diabetes: Antihyperglycemic Therapy, EWDR, and Perioperative Considerations ([/2227-9059/14/5/963](https://doi.org/10.3390/biomedicines14050963))

by Tongyu Wang, Jiling Zeng, Mengquan Tan, Meiling Zhong, Huixian Zhou, Yaling Dai and Siyuan Song

Biomedicines **2026**, *14*(5), 963; <https://doi.org/10.3390/biomedicines14050963> (<https://doi.org/10.3390/biomedicines14050963>) - 23 Apr 2026

Viewed by 731

Abstract Diabetic retinopathy (DR) is a common cause of vision loss in diabetes, and it often progresses without early symptoms. DR reflects injury of the retinal neurovascular unit (NVU), which includes neurons, Müller glia, astrocytes, endothelial cells, pericytes, and immune cells. Chronic hyperglycemia drives [...] **Read more.**

(This article belongs to the Special Issue **Insights into Retinal Development, Disease, and Neuroprotection with Pharmacologic and Perioperative Considerations** ([/journal/biomedicines/special_issues/EPC9M9FQ9L](https://journal.biomedicines.com/special_issues/EPC9M9FQ9L)))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00963/article_deploy/html/images/biomedicines-14-00963-g001-550.jpg?1778319784) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00963/article_deploy/html/images/biomedicines-14-00963-g002-550.jpg?1778319786) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00963/article_deploy/html/images/biomedicines-14-00963-g003-550.jpg?1778319788)

Open Access Review

29 pages, 1872 KB

[\(/2227-9059/14/5/962/pdf?version=1776865362\)](https://doi.org/10.3390/biomedicines14050962/pdf?version=1776865362)

Epstein–Barr Virus and Multiple Sclerosis: A Narrative Review on Prevention and the Concept of an Infection-Driven Disease ([/2227-9059/14/5/962](https://doi.org/10.3390/biomedicines14050962))

by Lou Marie Salomé Schleicher, Dorotea Zivalj, Hadid Joseph Farzad Diamee, Jan Finderle,

Abstract Multiple sclerosis (MS) is a chronic inflammatory disease of the central nervous system with onset typically in early adulthood and the potential for long-term disability. Current therapies are initiated after symptom onset and do not address early disease triggers, highlighting the need for [...] **Read more.** (This article belongs to the Special Issue **Neuroimmunology and Neurological Infection** (/journal/biomedicines/special_issues/CPH19QQFN0))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00962/article_deploy/html/images/biomedicines-14-00962-g001-550.jpg?1776865479) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00962/article_deploy/html/images/biomedicines-14-00962-g002-550.jpg?1776865482) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00962/article_deploy/html/images/biomedicines-14-00962-g003-550.jpg?1776865484)

Open Access Article

13 pages, 2404 KB

(</2227-9059/14/5/961/pdf?version=1778497174>) 

Comprehensive High-Depth Proteomic Analysis of Plasma Extracellular Vesicle-Containing Preparations in CDKL5 Deficiency Disorder (</2227-9059/14/5/961>)

by Tadashi Shiohama, Satoru Takahashi, Ryo Takeguchi, Yuichi Akaba, Hironori Sato, Masaki Ishikawa, Yusuke Kawashima, Asuka Koshi, Chihiro Abe, Shin Nabatame, Keita Tsujimura, Hiromichi Hamada and Keiichiro Suzuki

Biomedicines **2026**, *14*(5), 961; <https://doi.org/10.3390/biomedicines14050961> (<https://doi.org/10.3390/biomedicines14050961>) - 22 Apr 2026

Viewed by 602

Abstract Background/Objectives: CDKL5 deficiency disorder (CDD) is a rare X-linked developmental and epileptic encephalopathy characterized by early onset refractory epilepsy and severe neurodevelopmental impairment with autistic features. Despite advances in genetic diagnosis, objective biomarkers reflecting disease mechanisms remain limited. Extracellular vesicles (EVs) circulating [...] **Read more.**

(This article belongs to the Topic **Autism: Molecular Bases, Diagnosis and Therapies, 3rd Edition** (</topics/N9N1T0PV7N>))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00961/article_deploy/html/images/biomedicines-14-00961-g001-550.jpg?1778497254) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00961/article_deploy/html/images/biomedicines-14-00961-g002-550.jpg?1778497255) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00961/article_deploy/html/images/biomedicines-14-00961-g003-550.jpg?1778497260) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00961/article_deploy/html/images/biomedicines-14-00961-g004-550.jpg?1778497261)

Rapsyn Homolog RPY-1 Modulates Locomotor Responses of *Caenorhabditis elegans* to Radial Extracorporeal Shock Waves [\(/2227-9059/14/5/960\)](#)

by Tanja Hochstrasser, Leon Kaub and Christoph Schmitz

Biomedicines **2026**, *14*(5), 960; <https://doi.org/10.3390/biomedicines14050960> (<https://doi.org/10.3390/biomedicines14050960>) - 22 Apr 2026

Viewed by 507

Abstract Background/Objectives: Radial extracorporeal shock wave therapy (rESWT) is used to treat neuromuscular disorders such as spasticity, but the mechanisms by which rESWT modulates muscle tone remain incompletely understood. One proposed mechanism involves mechanical perturbation of the neuromuscular junction (NMJ), particularly destabilization of [...] **Read more.**

(This article belongs to the Section **Cell Biology and Pathology** (/journal/biomedicines/sections/cell_pathology/))

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00960/article_deploy/html/images/biomedicines-14-00960-g001-550.jpg?1778835649) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00960/article_deploy/html/images/biomedicines-14-00960-g002-550.jpg?1778835650) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00960/article_deploy/html/images/biomedicines-14-00960-g003-550.jpg?1778835650) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00960/article_deploy/html/images/biomedicines-14-00960-g004-550.jpg?1778835651) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00960/article_deploy/html/images/biomedicines-14-00960-g005-550.jpg?1778835651)

Metabolism and Metabolic Reprogramming in Laryngeal Squamous Cell Carcinoma [\(/2227-9059/14/5/959\)](#)

by Barbara Verro, Roberta Oliveri, Giovanni Pratelli, Marianna Lauricella, Diana Di Liberto, Anna De Blasio, Daniela Carlisi and Carmelo Saraniti

Biomedicines **2026**, *14*(5), 959; <https://doi.org/10.3390/biomedicines14050959> (<https://doi.org/10.3390/biomedicines14050959>) - 22 Apr 2026

Viewed by 567

Abstract Laryngeal squamous cell carcinoma (LSCC) remains a major clinical challenge within head and neck oncology, with five-year survival rates showing minimal improvement over recent decades despite advances in surgical and multimodal therapeutic strategies. Increasing evidence identifies metabolic reprogramming as a central driver of [...] **Read more.**

(This article belongs to the Special Issue **Head and Neck Cancer: From Mechanisms to Therapeutic Approaches—Advances and Challenges** (/journal/biomedicines/special_issues/P97Cl6VV6W/))

► Show Figures

 (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00959/article_deploy/html/images/biomedicines-14-00959-ag-550.jpg?1778484728) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00959/article_deploy/html/images/biomedicines-14-00959-g001-550.jpg?1778484726) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00959/article_deploy/html/images/biomedicines-14-00959-g002-550.jpg?1778484727) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00959/article_deploy/html/images/biomedicines-14-00959-g003-550.jpg?1778484727) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00959/article_deploy/html/images/biomedicines-14-00959-g004-550.jpg?1778484727) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00959/article_deploy/html/images/biomedicines-14-00959-g005-550.jpg?1778484728)

Open Access Review

15 pages, 1666 KB

[\(/2227-9059/14/5/958/pdf?version=1776861651\)](https://doi.org/10.3390/biomedicines14050958)

Clinical and Molecular Characterization of *TCIRG1*-Related Autosomal Recessive Osteopetrosis with Current Therapeutic Approaches [\(/2227-9059/14/5/958\)](https://doi.org/10.3390/biomedicines14050958)

by **Sabina E. Nagieva** and **Svetlana A. Smirnikhina**

Biomedicines **2026**, *14*(5), 958; <https://doi.org/10.3390/biomedicines14050958> (<https://doi.org/10.3390/biomedicines14050958>) - 22 Apr 2026

Viewed by 615

Abstract Background/Objectives: *TCIRG1*-associated infantile osteopetrosis is a severe hereditary disorder caused by impaired osteoclast function, leading to osteosclerosis, hematological abnormalities, neurological complications, and early mortality. Early diagnosis and intervention are critical. **Methods:** A literature-based analysis was performed on clinical manifestations, outcomes of [...] **Read more.**

(This article belongs to the Section **Molecular Genetics and Genetic Diseases** ([/journal/biomedicines/sections/Genetics_Genetic_Diseases](https://doi.org/10.3390/biomedicines/sections/Genetics_Genetic_Diseases)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00958/article_deploy/html/images/biomedicines-14-00958-g001-550.jpg?1776861776) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00958/article_deploy/html/images/biomedicines-14-00958-g002-550.jpg?1776861779) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00958/article_deploy/html/images/biomedicines-14-00958-g003-550.jpg?1776861782)

Open Access Review

22 pages, 1104 KB

[\(/2227-9059/14/5/957/pdf?version=1778492048\)](https://doi.org/10.3390/biomedicines14050957)

Functionalized Lipid Nanoparticles for Targeted RNA Delivery in Immune and Inflammatory Diseases [\(/2227-9059/14/5/957\)](https://doi.org/10.3390/biomedicines14050957)

by **Yeongji Jang**, **Hyun Kyu Song**, **Man Kyu Shim** and **Yoosoo Yang**

Biomedicines **2026**, *14*(5), 957; <https://doi.org/10.3390/biomedicines14050957> (<https://doi.org/10.3390/biomedicines14050957>) - 22 Apr 2026

Viewed by 912

Abstract Lipid nanoparticles (LNPs) have become an important platform for the delivery of RNA therapeutics, including messenger RNA (mRNA) and small interfering RNA (siRNA). However, most clinically approved LNP formulations exhibit strong liver tropism following systemic administration, which limits efficient delivery to extrahepatic tissues. [...] [Read more](#) [\(toggle desktop layout cookie\)](#)  
(This article belongs to the Special Issue **Applications of Biomedical Engineering and Biomaterials in Human Diseases** (/journal/biomedicines/special_issues/PXD6SYFNWN))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00957/article_deploy/html/images/biomedicines-14-00957-g001-550.jpg?1778492148) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00957/article_deploy/html/images/biomedicines-14-00957-g002-550.jpg?1778492151)

Open Access Article 22 pages, 4589 KB [\(/2227-9059/14/5/956/pdf?version=1776861407\)](/2227-9059/14/5/956/pdf?version=1776861407) 

***Rhapontici Radix* Extract Inhibits Colorectal Intraepithelial Neoplasia by Regulating the YAP/PI3K-AKT Signaling Pathway: Evidence from Animal Models, Organoids, and Cytological Studies** (</2227-9059/14/5/956>)

by Fan Xiao, Zhilu Lei, Bo Wu, Zhenyu Niu, Guifang Deng, Linjing Su, Yaqian Cao, Kerong Qi, Xiaoqing Sun, Qike Tan, Junyu Ke and Yanwu Li

Biomedicines **2026**, *14*(5), 956; <https://doi.org/10.3390/biomedicines14050956> (<https://doi.org/10.3390/biomedicines14050956>) - 22 Apr 2026

Viewed by 489

Abstract Background: Colorectal intraepithelial neoplasia (CR-EN) is a precursor lesion of colitis-associated colorectal cancer (CAC). This study investigated the interventional effects and molecular mechanisms of *Rhapontici Radix* extract on CR-EN. **Methods:** An azoxymethane/dextran sulfate sodium (AOM/DSS)-induced mouse model of colonic intraepithelial neoplasia, bioinformatics analysis, [...] [Read more](#).

(This article belongs to the Section **Cancer Biology and Oncology** (</journal/biomedicines/sections/cancer>))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00956/article_deploy/html/images/biomedicines-14-00956-g001-550.jpg?1776861490) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00956/article_deploy/html/images/biomedicines-14-00956-g002-550.jpg?1776861492) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00956/article_deploy/html/images/biomedicines-14-00956-g003-550.jpg?1776861496) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00956/article_deploy/html/images/biomedicines-14-00956-g004-550.jpg?1776861500) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00956/article_deploy/html/images/biomedicines-14-00956-g005-550.jpg?1776861504) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00956/article_deploy/html/images/biomedicines-14-00956-g006-550.jpg?1776861508) (<https://pub.mdpi-res.com/biomedicines/biomedicines-14-00956/>)

 [article_deploy/html/images/biomedicines-14-00956-g007-550.jpg?1776861511](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00956/article_deploy/html/images/biomedicines-14-00956-g008-550.jpg?1776861515)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-00956-g008-550.jpg?1776861515](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00956/article_deploy/html/images/biomedicines-14-00956-g008-550.jpg?1776861515)) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00956/article_deploy/html/images/biomedicines-14-00956-g009-550.jpg?1776861517)

Open Access Article

28 pages, 5344 KB

([/2227-9059/14/5/955/pdf?version=1776918257](https://doi.org/10.3390/biomedicines14050955/pdf?version=1776918257)) 

Integrated Molecular, Genomic, and Clinical Characterization of Pediatric and Adolescent Translocation Renal Cell Carcinoma: A Report from the Children's Oncology Group
([/2227-9059/14/5/955](https://doi.org/10.3390/biomedicines14050955))

by Alissa Groenendijk, Bruce J. Aronow, Nicholas Cost, Mariana Cajaiba, Lindsay A. Renfro, Elizabeth J. Perlman, Lisa Dyer, Teresa A. Smolarek, Elizabeth A. Mullen, Sameed Pervaiz, Somak Roy, Phillip J. Dexheimer, Peixin Lu, Peter F. Ehrlich, M. M. van den Heuvel-Eibrink, Jeffrey S. Dome, James I. Geller and on behalf of the COG Renal Tumor Committee
Biomedicines **2026**, *14*(5), 955; <https://doi.org/10.3390/biomedicines14050955> (<https://doi.org/10.3390/biomedicines14050955>) - 22 Apr 2026

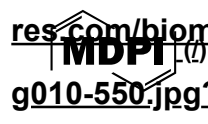
Viewed by 685

Abstract Background: Translocation morphology renal cell carcinoma (tRCC) accounts for nearly half of all pediatric RCC cases. Biological study AREN14B4-Q aimed to characterize the molecular landscape of tRCC using samples acquired from patients enrolled in the Children's Oncology Group Risk Classification and Biobanking [...][Read more.](#)

(This article belongs to the Special Issue **Urogenital Cancers: New Molecular and Translational Aspects on Carcinogenesis and Treatments (2nd Edition)**) ([/journal/biomedicines/special_issues/T505GU8MW6](https://www.mdpi.com/journal/biomedicines/special_issues/T505GU8MW6)))

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g001-550.jpg?1776918404) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g002-550.jpg?1776918405) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g003-550.jpg?1776918406) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g004-550.jpg?1776918408) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g005-550.jpg?1776918412) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g006-550.jpg?1776918416) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g007-550.jpg?1776918418) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g008-550.jpg?1776918422) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955-g009-550.jpg?1776918423](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g009-550.jpg?1776918423)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955-g010-550.jpg?1776918424](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g010-550.jpg?1776918424))

 [res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g010-550.jpg?1776918426](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g010-550.jpg?1776918426) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g011-550.jpg?1776918431) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g0A1-550.jpg?1776918432) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00955/article_deploy/html/images/biomedicines-14-00955-g0A2-550.jpg?1776918433)

Open Access Article 13 pages, 17170 KB [_\(/2227-9059/14/5/954/pdf?version=1776852247\)](https://doi.org/10.3390/biomedicines14050954) 

Identification of Copy Number Variations in Familial Hemiplegic Migraine Genes in Suspected Hemiplegic Migraine Patients (/2227-9059/14/5/954)

by **Thais Zielke, Heidi G. Sutherland, Neven Maksemous, Robert A. Smith and Lyn R. Griffiths**
Biomedicines **2026**, *14*(5), 954; <https://doi.org/10.3390/biomedicines14050954> (<https://doi.org/10.3390/biomedicines14050954>) - 22 Apr 2026

Viewed by 525

Abstract Background: Familial hemiplegic migraine (FHM) is a rare and severe form of migraine disorder featuring aura symptoms that include hemiplegia during attacks. While pathogenic missense variants in *CACNA1A*, *ATP1A2*, and *SCN1A* can cause FHM or its sporadic form, they explain [...] **Read more.**

(This article belongs to the Special Issue **Unveiling the Genetic Architecture of Complex and Common Diseases (/journal/biomedicines/special_issues/5CL1LZQ1JS)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00954/article_deploy/html/images/biomedicines-14-00954-g001-550.jpg?1776852362)

Open Access Review 31 pages, 1026 KB [_\(/2227-9059/14/5/953/pdf?version=1776851267\)](https://doi.org/10.3390/biomedicines14050953)

The Central Role of Neuronal Cell Death in Alzheimer's Disease Pathobiology (/2227-9059/14/5/953)

by **Soyoung Kwak, Jin Kyung Kim, Yong-Uk Lee, Hye Suk Baek, Ye Jin Kwon, Mee-Na Park, Jeong-Ho Hong, Seung-Bo Lee, Hae Won Kim and Shin Kim**

Biomedicines **2026**, *14*(5), 953; <https://doi.org/10.3390/biomedicines14050953> (<https://doi.org/10.3390/biomedicines14050953>) - 22 Apr 2026

Cited by 1 (/2227-9059/14/5/953#metrics) | Viewed by 854

Abstract Alzheimer's disease (AD) is a progressive neurodegenerative disorder in which amyloid β accumulation, tau pathology, chronic neuroinflammation, and metabolic stress converge to drive synaptic dysfunction and neuronal loss. Rather than resulting from a single mechanism, increasing evidence indicates that neurodegeneration in AD is [...] **Read more.**

(This article belongs to the Special Issue **Feature Reviews in Cell Death (/journal/biomedicines/special_issues/X41H9BUNE3)**)

► Show Figures

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00953/article_deploy/html/images/)

Lineage-Specific Chimerism Analysis After Allogeneic Hematopoietic Cell Transplantation In Patients with Myeloid Neoplasms: Current Evidence and Considerations in the Post-Transplant Cyclophosphamide Setting [\(/2227-9059/14/5/952\)](#)

by Jan Mateusz Zaucha, Jan Maciej Zaucha and Agnieszka Piekarska

Biomedicines **2026**, *14*(5), 952; <https://doi.org/10.3390/biomedicines14050952> (<https://doi.org/10.3390/biomedicines14050952>) - 22 Apr 2026

Cited by 1 [\(/2227-9059/14/5/952#metrics\)](#) | Viewed by 703

Abstract Background: Chimerism analysis is a key tool for monitoring donor-cell engraftment and the risk of relapse and graft-versus-host disease (GVHD) following allogeneic hematopoietic cell transplantation (allo-HCT). The advantage of lineage-specific chimerism assessment, and its dynamics in patients receiving post-transplant cyclophosphamide (PTCy)-based GVHD prophylaxis, [...] **Read more.**

(This article belongs to the Section **Molecular and Translational Medicine** [\(/journal/biomedicines/sections/medicine\)](#))

In Vitro Cell Viability and Migration Inhibitory Effects of Isorhamnetin in Non-Small Cell Lung Cancer Cells [\(/2227-9059/14/5/951\)](#)

by Chengjing Shen, Taierpuke Maimaiti, Gulijikere Kuerban, Mireguli Abulimiti, Jialu Hu, Zilala Yalihong and Aikebaier Maimaiti

Biomedicines **2026**, *14*(5), 951; <https://doi.org/10.3390/biomedicines14050951> (<https://doi.org/10.3390/biomedicines14050951>) - 22 Apr 2026

Viewed by 1130

Abstract Background: Lung cancer remains the leading cause of cancer-related mortality worldwide, with non-small cell lung cancer (NSCLC) accounting for approximately 85% of all cases. Isorhamnetin (ISO), a natural dietary flavonoid, has demonstrated potent anti-lung cancer activity in cell models. However, its precise [...] **Read more.**

(This article belongs to the Section **Cancer Biology and Oncology** [\(/journal/biomedicines/sections/cancer\)](#))

► Show Figures

https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-ag-550.jpg?1777346526) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g001-550.jpg?1776847955) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g002-550.jpg?1776847958) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951-g003-550.jpg?1776847961](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g003-550.jpg?1776847961)) (<https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/>

 [article_deploy/html/images/biomedicines-14-00951-g004-550.jpg?1776847963](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g004-550.jpg?1776847963) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951-g005-550.jpg?1776847964](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g005-550.jpg?1776847964)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951-g006-550.jpg?1776847968](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g006-550.jpg?1776847968)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951-g007-550.jpg?1776847969](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g007-550.jpg?1776847969)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951-g008-550.jpg?1776847971](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g008-550.jpg?1776847971)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951-g009-550.jpg?1776847973](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g009-550.jpg?1776847973)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951-g010-550.jpg?1776847975](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g010-550.jpg?1776847975)) ([https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951-g011-550.jpg?1776847977](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g011-550.jpg?1776847977))

Open Access Editorial

4 pages, 148 KB

[_\(/2227-9059/14/5/950/pdf?version=1776847228\)](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g004-550.jpg?1776847963)

Genetic Research on Neuropsychiatric Disorders and Complex Human Diseases **(/2227-9059/14/5/950)**

by **Wen Zhang**

Biomedicines **2026**, *14*(5), 950; <https://doi.org/10.3390/biomedicines14050950> (<https://doi.org/10.3390/biomedicines14050950>) - 22 Apr 2026

Viewed by 380

Abstract Genetic research on neuropsychiatric disorders and other complex diseases is advancing rapidly [...] **Full article** [\(/2227-9059/14/5/950\)](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g004-550.jpg?1776847963)

(This article belongs to the Special Issue **Genetic Research on Neuropsychiatric Disorders and Complex Human Diseases** ([/journal/biomedicines/special_issues/6LRH73BGIC](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g004-550.jpg?1776847963)))

Open Access Article

19 pages, 11457 KB

[_\(/2227-9059/14/5/949/pdf?version=1776844600\)](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g004-550.jpg?1776847963) 

Characterizing Response to PARP Inhibitor Treatment Combinations in Advanced Prostate Cancer **(/2227-9059/14/5/949)**

by **Bryan Correa Gonzalez, Akshaya Karthikeyan, Love A. Moore, Anamitra Bhaumik, Ethan Sandoval, Marion Hardy, John D. McPherson, Hong Li, Mamta Parikh, Marc Dall'Era, Allen C. Gao and Alan P. Lombard**

Biomedicines **2026**, *14*(5), 949; <https://doi.org/10.3390/biomedicines14050949> (<https://doi.org/10.3390/biomedicines14050949>) - 22 Apr 2026

Viewed by 721

Abstract Background/Objectives: Combinations of PARP inhibitors (PARPi) and androgen receptor pathway inhibitors (ARPi) have led to clinical success in treating advanced prostate cancer. However, it is unclear where in the clinical paradigm these combinations will fare best, and their mechanism of action remains [...] **Read more.**

(This article belongs to the Special Issue **Prostate Cancer Targeted Therapy: Highlighting Advances in Precision Medicine and Rational Combination Approaches** ([/journal/biomedicines/](https://pub.mdpi-res.com/biomedicines/biomedicines-14-00951/article_deploy/html/images/biomedicines-14-00951-g004-550.jpg?1776847963)

special issues/U8PFKJF58B))

MDPI (1)

► **Show Figures**

(https://pub.mdpi-res.com/biomedicines/biomedicines-14-00949/article_deploy/html/images/biomedicines-14-00949-g001-550.jpg?1776844695) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00949/article_deploy/html/images/biomedicines-14-00949-g002-550.jpg?1776844699) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00949/article_deploy/html/images/biomedicines-14-00949-g003-550.jpg?1776844704) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00949/article_deploy/html/images/biomedicines-14-00949-g004-550.jpg?1776844709) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00949/article_deploy/html/images/biomedicines-14-00949-g005-550.jpg?1776844714) (https://pub.mdpi-res.com/biomedicines/biomedicines-14-00949/article_deploy/html/images/biomedicines-14-00949-g006-550.jpg?1776844718)

Show export options ▾

Displaying articles 1-228

[Previous Issue](#)

[Volume 14, April \(/2227-9059/14/4\)](#)

[Next Issue](#)

[Volume 14, June \(/2227-9059/14/6\)](#)

[Biomedicines \(/journal/biomedicines\)](#), EISSN 2227-9059, Published by MDPI

[RSS \(/rss/journal/biomedicines\)](#) **[Content Alert \(/journal/biomedicines/toc-alert\)](#)**

Further Information

[Article Processing Charges \(/apc\)](#)

[Pay an Invoice \(/about/payment\)](#)

[Open Access Policy \(/openaccess\)](#)

[Contact MDPI \(/about/contact\)](#)

[Jobs at MDPI \(https://careers.mdpi.com\)](https://careers.mdpi.com)

Guidelines

[For Authors \(/authors\)](#)

[For Reviewers \(/reviewers\)](#)

[For Editors \(/editors\)](#)

[For Librarians \(/librarians\)](#)

[For Publishers \(/publishing_services\)](#)

[For Societies \(/societies\)](/societies)

[MDPI \(/\)](#)

[MDPI Conference Organizers \(/conference_organizers\)](/conference_organizers)

[Sciforum \(https://sciforum.net\)](https://sciforum.net)

[⌕ \(/toggle_desktop_layout_cookie\)](#)  

[MDPI Books \(https://www.mdpi.com/books\)](https://www.mdpi.com/books)

[Preprints.org \(https://www.preprints.org\)](https://www.preprints.org)

[Scilit \(https://www.scilit.com\)](https://www.scilit.com)

[SciProfiles \(https://sciprofiles.com?utm_source=mdpi.com&utm_medium=bottom_menu&utm_campaign=initiative\)](https://sciprofiles.com?utm_source=mdpi.com&utm_medium=bottom_menu&utm_campaign=initiative)

[Encyclopedia \(https://encyclopedia.pub\)](https://encyclopedia.pub)

[JAMS \(https://jams.pub\)](https://jams.pub)

[Proceedings Series \(/about/proceedings\)](/about/proceedings)

Follow MDPI

[LinkedIn \(https://www.linkedin.com/company/mdpi\)](https://www.linkedin.com/company/mdpi)

[Facebook \(https://www.facebook.com/MDPIOpenAccessPublishing\)](https://www.facebook.com/MDPIOpenAccessPublishing)

[X \(https://x.com/MDPIOpenAccess\)](https://x.com/MDPIOpenAccess)

Subscribe to receive issue release notifications and newsletters from MDPI journals

Select options 

Enter your email address...

Subscribe

© 1996-2026 MDPI (Basel, Switzerland) unless otherwise stated

[Disclaimer](#) [Legal Notice \(/about/legal-notice\)](/about/legal-notice)

[Terms and Conditions \(/about/terms-and-conditions\)](/about/terms-and-conditions) [Privacy Policy \(/about/privacy\)](/about/privacy)

[Privacy Settings](#) [Accessibility \(/accessibility\)](/accessibility)

Biomedicines

Switzerland | Universities and research institutions | Media Ranking

Country

Switzerland



Subject Area and Category

Biochemistry, Genetics and
Molecular Biology

Biochemistry, Genetics
and Molecular Biology
(miscellaneous)

Medicine

Medicine (miscellaneous)

Publisher

Multidisciplinary Digital
Publishing Institute (MDPI)

SJR 2025

1.165

H-Index

Q1 108

Publication type

Journals

ISSN

22279059

Coverage

2013-2026

Information

[Home](#)

[How to publish in this journal](#)

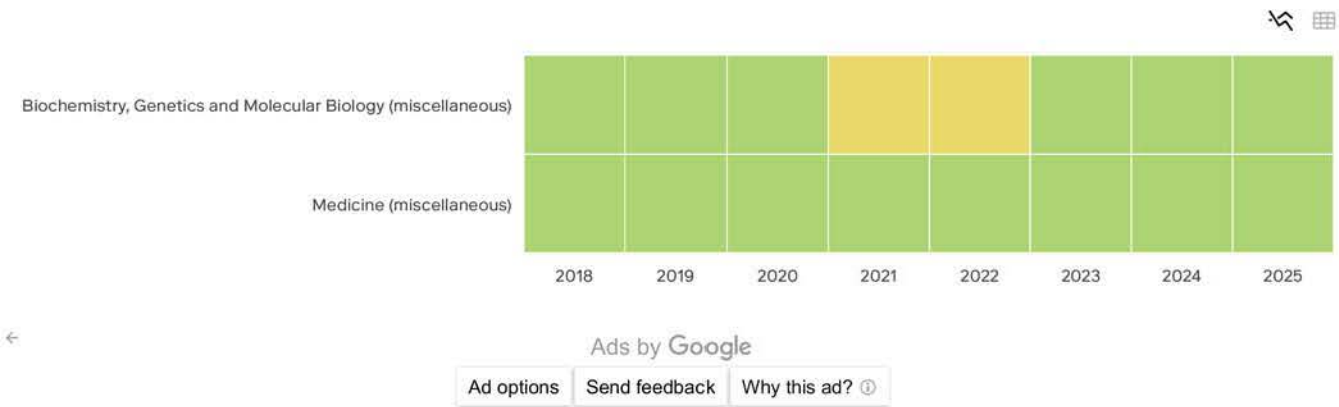
Shaker.Mousa@acphs.edu

Scope

Biomedicines (ISSN 2227-9059) is an open access journal devoted to research of naturally driven biomedicines, pharmaceuticals, and biopharmaceutical products. The topics include natural bioactive molecules, biologics, biosimilar, vaccines, gene therapies, cell-based therapies, targeted specific antibodies, recombinant therapeutic proteins, nanobiotechnology driven products, targeted therapy, bioimaging, biosensors, biomarkers, nano-similars, and nano-biosimilars. The journal is open for publication of studies conducted at the basic science,

clinical development and clinical trial stages. Also, publications that address safety, pharmacovigilance regulatory, and ethical issues are welcome. We invite you to consider submitting your work to Biomedicines, be it original research, review articles, or developing special issues of current key topics. The aim of Biomedicines is publishing high quality papers that address the challenges in bringing biological agents or novel targeted strategies through identification, development and ultimately to clinical use. Therefore, basic research, comprehensive preclinical studies, clinical development, and clinical trials are all within the scope of the journal. Natural Biomedicines Including Marine, Plant, and Animal-Derived Biomedicines; Biopharmaceutical Biomedicines: Biologics, and Biosimilar; Nanobiotechnological Advances in Biomedicines: Nanomedicine, Nanoscaffold Implants (Synthetic Vascular Graft), Biosensors, Bio imaging, Gene Therapy, Vaccine, Cell Therapy, and Tissue Engineering; Biomedicines and Pharmacotherapy: Drug Discovery and Drug Development (Novel Targets) in Various Therapeutic Areas: Cardiovascular, Vascular, Hematology, Oncology, Neurology, Orthopedics, Dermatology, Ophthalmology; Pharmacovigilance, Regulatory and Ethical Issues.

Quartiles



Find similar journals

[All quartiles](#) [All countries](#) [All subject categories](#) [Clear filters](#) [Download](#)

☐ Only Open Access Journals

1 - Frontiers in Bioscience - Landmark

89%

similarity

2 - Life Sciences

85%

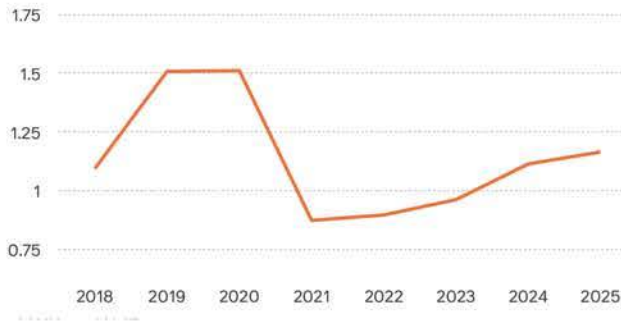
similarity

3 - International Journal of Molecular Sciences

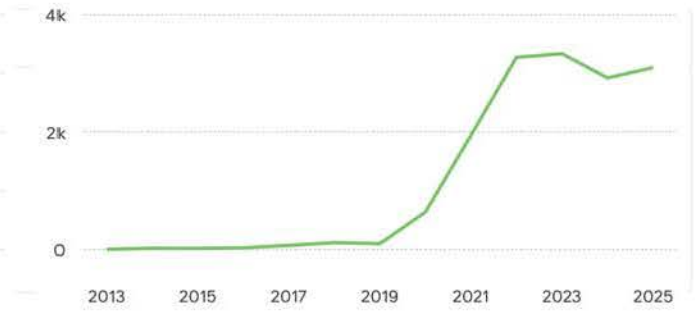
85%

similarity

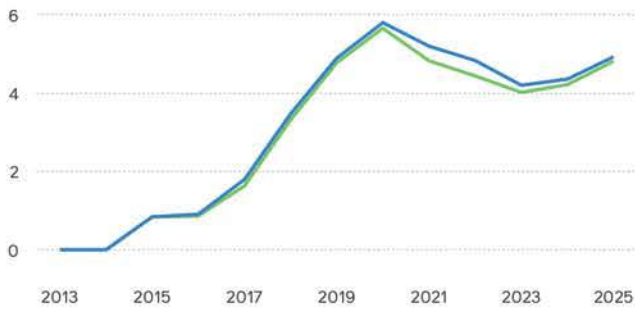
SJR



Total Documents



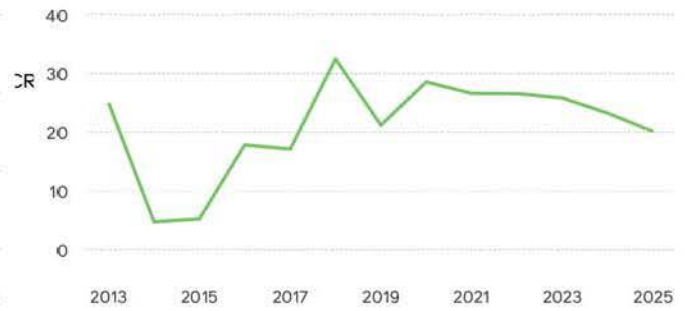
External Cites per Doc



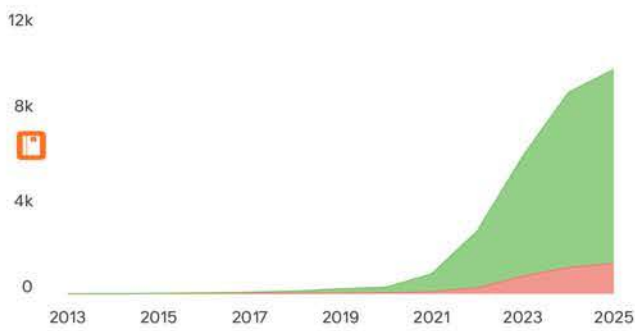
Cites per Doc



% International Collaboration



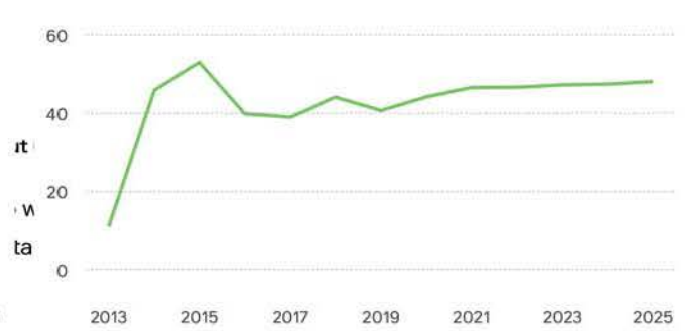
Cited documents



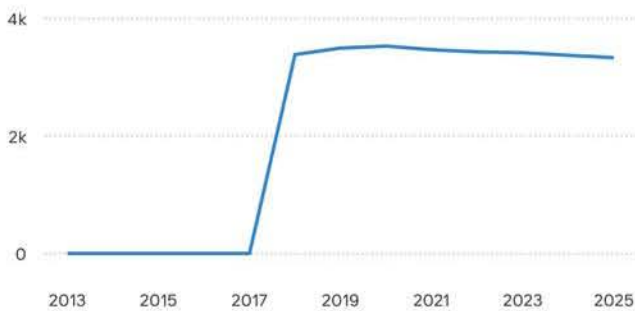
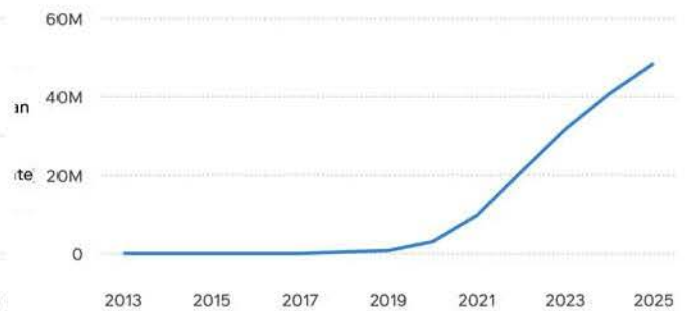
Uncited documents



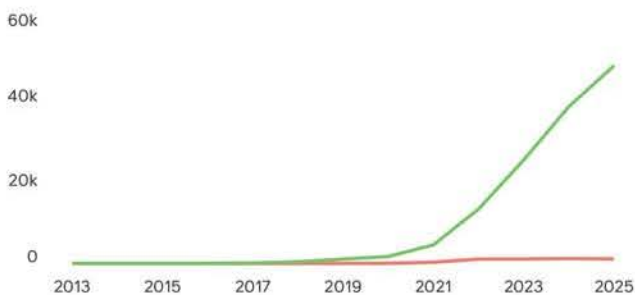
% Female Authors



Estimated APC

SCImago Arab
Estimated financial value

Total Cites



Self-Cites

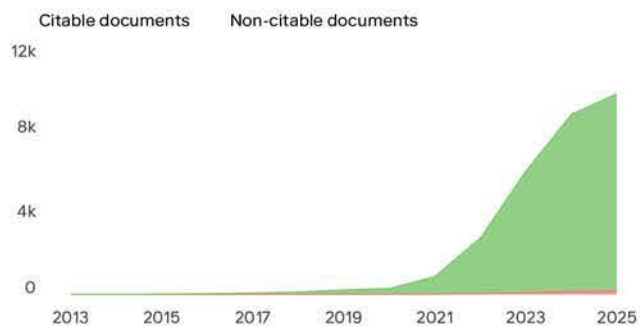


Citations per document

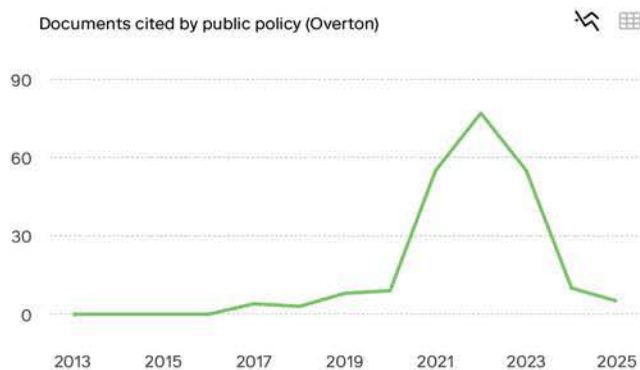


Legal Notice

Privacy Policy

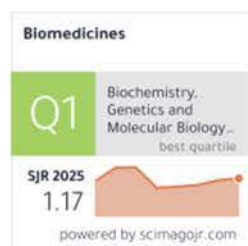


Cites per document	Year	Value
Cites / Doc. (4 years)	2015	0.840
Cites / Doc. (4 years)	2016	0.909
Cites / Doc. (4 years)	2017	1.694
Cites / Doc. (4 years)	2018	3.326
Cites / Doc. (4 years)	2019	4.654
Cites / Doc. (4 years)	2020	5.691
Cites / Doc. (4 years)	2021	5.310
Cites / Doc. (4 years)	2022	4.961
Cites / Doc. (4 years)	2023	4.235



Documents related to SDGs (UN)

Coming soon



← Show this widget in your own website

Just copy the code below and paste within your html code:

```
<a href="https://www.scimag
```

SCImago Graphica

Explore, visually communicate and make sense of data with our **new data visualization tool**.



Source details

Biomedicines

Open Access ⓘ

Years currently covered by Scopus: from 2013 to 2026

Publisher: Multidisciplinary Digital Publishing Institute (MDPI)

E-ISSN: 2227-9059

Subject area: Medicine: Medicine (miscellaneous)

Biochemistry, Genetics and Molecular Biology: General Biochemistry, Genetics and Molecular Biology

Source type: Journal

[View all documents >](#) [Set document alert](#) [Save to source list](#)

CiteScore 2025
7.8 ⓘ

SJR 2025
1.165 ⓘ

SNIP 2025
1.125 ⓘ

CiteScore CiteScore rank & trend Scopus content coverage

CiteScore 2025 ▾

7.8

=

96,280 Citations 2022 - 2025

12,348 Documents 2022 - 2025

Calculated on 05 May, 2026

CiteScoreTracker 2026 ⓘ

6.7

=

69,050 Citations to date

10,231 Documents to date

Last updated on 08 June, 2026 • Updated monthly

CiteScore rank 2025 ⓘ

Category	Rank	Percentile
Medicine		
Medicine (miscellaneous)	#57/466	87th
Biochemistry, Genetics and Molecular Biology		
General Biochemistry,	#39/223	82nd

[View CiteScore methodology >](#) [CiteScore FAQ >](#) [Add CiteScore to your site](#)

About Scopus

[What is Scopus](#)

[Content coverage](#)

[Scopus blog](#)

[Scopus API](#)

[Privacy matters](#)

Language

[日本語版を表示する](#)

[查看简体中文版本](#)

[查看繁體中文版本](#)

[Просмотр версии на русском языке](#)

Customer Service

[Help](#)

[Tutorials](#)

[Contact us](#)

ELSEVIER

[Terms and conditions](#) [Privacy policy](#) [Cookies settings](#)

All content on this site: Copyright © 2026 Elsevier B.V. [↗](#), its licensors, and contributors. All rights are reserved, including those for text and data mining, AI training, and similar technologies. For all open access content, the relevant licensing terms apply.

