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Quality Issue of Commercial Bioproduct Dietary Supplements

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Human dietary supplements have been commercially available everywhere, including in Indonesian markets, and now even readily available online. Among the huge variety of dietary supplements, consumers seem to love the natural and bioproduct supplementary for they are considered as healthier and safer compared to the chemical or synthetic ones. Our main concern in this review is the quality of food supplements containing bioproducts like protein or even life cells, since such products are more demanding for specific treatment and condition to stay stable in terms of structure, thus, also in terms of bioactivity. Two study cases are taken for example, i.e. Albumin Extract Powder (AEP), commonly used to promote immune system and wound healing post surgery and Probiotic Culture in Solution (PCS), used as probiotic supplementation. Five different commercial AEPs have been studied focusing on the protein and albumin content, as well as the protein profile and solubility. Only one of them showed adequate amount of soluble protein and albumin content (as determined by Bradford and BGC Methods, respectively), while none of them gave similar pattern of protein as that shown by the positive control (as studied by SDS-PAGE and Protein Blotting Methods). In the case of PCS, one imported, commercial product claimed a shelf life of at least 2 years has been studied for its storage stability and found out to fade off within less than 1 month (as studied by simple Total Plate Count Method). These data, supported by several other similar findings not reported here, conclude that quality control and standardization system of the bioproduct dietary supplements are still of issues in many places, and consumers apparently need more prior knowledge and protection system, since they might not realize, that supplement manufacturers routinely, and legally, sell their products without first having to demonstrate that they are safe and effective.



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