The inhibition of bacterial metalloenzymes and fungal protein synthesis on explants surfaces by sterilizing agents

Wina Dian Savitri*

Department of Biology, Faculty of Biotechnology, University of Surabaya

Jl. Raya Kalirungkut, Surabaya, 60292, Indonesia

Phone/fax: (031)2981399/1278, e-mail: winasavitri@staff.ubaya.ac.id

Abstract

Surface sterilization is a very important key for reaching a successful explants introduction to the in vitro environment. However, to get the best protocol of explants surface sterilization is not easy. Each explants has its characteristics and the contaminants (which usually are bacteria and fungus) are vary depending on its source. In order to know the best sterilization protocol of *Phaleria macrocarpa* leaves, some sterilizing agents were tested. This experiment suggests that ethylene bis dithiocarbamate may eradicate fungal infection by metalloenzymes inhibition, which is showed by 91.7% survivals. In the other hand, streptomycin sulfate may eliminate bacterial infection by inhibition of protein synthesis, which is showed by 95.8% to 98.3% survivals depending on the exposure time.

Key words: ethylene bis dithiocarbamate, metalloenzymes, streptomycin sulfate, protein synthesis, sterilization