

Preliminary screening of plant proteases as a potential source for the development of an inhibitive assay for heavy metals

ABSTRACT

Heavy metals pollution has become a great threat to the world. Since instrumental methods are expensive and need skilled technician, a simple and fast method is needed to determine the presence of heavy metals in the environment. In this work, a preliminary study was carried out on the applicability of various local plants as a source of protease for the future development of the inhibitive enzyme assay for heavy-metals. The crude proteases preparation was assayed using casein as a substrate in conjunction with the Coomassie dye-binding assay. The crude protease from the kesinai plant was found to be the most potent plant protease. The crude enzyme exhibited broad temperature and pH ranges for activity and will be developed in the future as a potential inhibitive assay for heavy metals.

Keyword: Crude protease; Plant protease; Kesinai; Casein; Coomassie dye binding assay