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Screening of Tropical Mushroom Lectins

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Abstract

Lectins, a very heterogeneous set of proteins which are grouped together purely on the basis of their ability to bind saccharides specifically and reversibly, are widely distributed in living organisms including plants, animals, and microorganisms (bacteria, fungi, and viruses). Fungal lectins have been less well studied than plant and animal lectins. A total of 93 mushroom specimens were collected from natural habitats and local markets in the Northeastern, Central, and Western Thailand, particularly in the Northeast region. Accumulations of lectins in crude extracts of these mushroom specimens were detected by hemagglutination assay using human (A, B, and O blood groups) and animal (goose, guinea pig, mouse, rabbit, rat, and sheep) red blood cells. It was found that more than 50% of mushroom extracts predominantly performed hemagglutinating for rat erythrocytes. Some extracts of *Amanitaceae* and *Agaricaceae* specimens rather strongly agglutinated both human and animal (rat, goose, guinea pig, mouse, and sheep) red blood cells, and have been selected for further purification and preliminary characterization of lectins.

Key words: Lectins, tropical mushrooms