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Short Communication

Isolation of Glucan from Medicinal Fungi Ganoderma lucidum

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Ganoderma lucidum (Ling Zhi), a basidiomycete white rot macrofungus has been used extensively for therapeutic use in China, Japan, Korea and other Asian countries for 2,000 years. Macrofungi are distinguished as important natural resources of immunomodulating and anticancer agents and with regard to the increase in diseases involving immune dysfunction, cancer, autoimmune conditions in recent years, applying such immunomodulator agents especially with the natural original is vital. In the last three decades, numerous polysaccharides and polysaccharide-protein complexes have been isolated from mushrooms and used as a source of therapeutic agents In the present study glucan was isolated from *G. lucidum* was isolated for studying its therapeutic properties. The fruiting bodies of *G. lucidum* were collected from the outskirts of Thrissur district, Kerala, South India. The type specimen was deposited in the herbarium of Center for Advanced Studies in Botany, University of Madras, Chennai, India (HERB. MUBL. 3175). Glucan was isolated by the method of Mizuno with slight modification [1]. The confirmation of glucan was done by anthrone and phenol sulphuric acid test. Structural confirmation of glucan was done by infrared radiation (IR) and nuclear magnetic resonance (NMR) spectrum which were recorded at Sophisticated Analytical Instrument Facility, Indian Institute of Technology, Bombay, India. The molecular wt of glucan was determined by gel filtration chromatography. Identification of sugar components (complete hydrolysis and chromatography) was done by paper chromatography. In the HNMR spectrum, H.sup.-1 signals were observed at less than 4.8 ppm (4.762, 4.683, 4.667, 4.658, 4.402 ppm), which suggest that component sugars have beta configuration. From gel filtration chromatography, the molecular weight of BG was found to be 1.5×10^6 Daltons. The R_f values of monosaccharides D-glucose, D-fructose, D-galactose, D-mannose and D-rhamnose were 0.47, 0.54, 0.44, 0.53 and 0.65 respectively. Comparing the R_f values, the sugar present in the *Ganoderma glucan* was found to be glucose, mannose and rhamnose.

References

1. Mizuno T. "Development of an antitumor biological response modifier from Phellinus linteus (Berk. et Curt.) Teng (Aphyllophoromycetideae)". Int J Med Mushrooms 2.1 (2000): 21-33.

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