The Physio-Chemical Characteristics of the Polysaccharide-peptide (PSP) of Coriolus versicolor (Yun Zhi)

Q.Y. Yang, S.C. Yong and X.T. Yang
Shanghai Normal University

Abstract

PSP is an anticarcinogen and immunological regulator identified as a polysaccharide peptide which has been extracted from the deep layer cultivated mycelia of Coriolus versicolor. Infrared spectrophotometer at wavelenghts of 3432 cm^{-1}, 1621 cm^{-1} and 1073 cm^{-1} produces three absorption bands.

The N.M.R. of PSP has the characteristic to show absorption at 1.0-2.5 ppm, 3.0-3.4, 4.5, 5.4 ppm and broad absorption in the region of 3.0-4.3 ppm.

Use spectrophotometer to determine the effluent separated from the column of gel chromatography (Sephadex G-75), The results shown that maximum absorption peaks of polypeptide and polysaccharides are found in the homeo-collecting tubes.

The polysaccharide portion is composed of the five monsaccharides, galactose, glucose, mannose, xylose, and fucose. The amino acids most frequently found in the polypeptide are aspartic and glutamic. PSP has no sharply defined fusion point. It is insoluble in methyl alcohol, pryridine, benzene, hexane, and chloroform but is very soluble in hot water. The pH value of its 1% water solution is 6.6. It is heat and light stable. &nbp; When kept at a temperature of 100°C for 48 hours or irradiated with ultraviolet light for 30 hours there is essentially no change in composition. Using sodium dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE) the molecular weight has been calculated at about $1x10^5$ Dalton.