

1. Food Chem Toxicol. 2007 Sep;45(9):1719-30. Epub 2007 Mar 23.

Toxicological assessment of a particulate yeast (1,3/1,6)-beta-D-glucan in rats.

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This study investigates the toxicity of WGP 3-6, a yeast-derived beta-glucan ingredient, during single-dose acute and sub-chronic toxicity studies in rats.

For the acute study, Fisher-344 rats were administered WGP 3-6 via gavage at a dose of 2000 mg/kg body weight, and any evidence of toxicity was monitored over a 14-day period. WGP 3-6 was well tolerated, indicating that the LD(50) value is greater than 2000 mg/kg body weight. For the sub-chronic study, Fisher-344 rats (10/sex/group) were randomly allocated to receive daily gavage treatment with WGP 3-6 at doses of 0, 2, 33.3, or 100 mg/kg body weight. Control and high-dose satellite recovery groups of each sex also were included. Full toxicological monitoring and endpoint investigations were performed throughout and upon completion of the study. No negative effects on animal weights or food consumption attributable to WGP 3-6 were evident at any dose. In addition, no mortality, clinical pathology, functional/behavioral, microscopic, or gross observations indicating toxicity were observed. Sporadic changes in some biochemical and hematological parameters were observed; however, since the effects were within the physiological ranges in historical controls, were not dose-responsive, or were not observed in both sexes, they were determined to be of no toxicological significance. In conclusion, no adverse or toxic effects were observed after subchronic oral administration of 2, 33.3, or 100mg/kg body weight/day of WGP 3-6 in Fisher-344 rats, and therefore, a no observed adverse effect level (NOAEL) of 100 mg/kg body weight/day, the highest dose tested, was determined.

PMID: 17493735 [PubMed - indexed for MEDLINE]