

## Effects of $\beta$ -glucan from *Lentinus edodes* and *Hordeum vulgare* on Blood Glucose and Lipid Composition in Alloxan induced Diabetic Mice

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Effects of  $\beta$ -glucan from *Lentinus edodes* and *hordeum vulgare* on blood glucose and lipid composition were investigated. Diabetes mellitus was induced in male ICR mice by the injection of alloxan into the tail vein at a dose of 75 mg/kg. The  $\beta$ -glucan were administered orally for 10 days and the normal and alloxan-control group were orally administered with saline. The body weight gain and food intake were monitored every day and plasma levels of glucose, triglyceride, Total cholesterol, LDL-cholesterol and liver levels of glucose, triglyceride, Total cholesterol, LDL-cholesterol, HDL-cholesterol, VLDL-cholesterol were determined at last day. Also weight of liver, heart, spleen and kidney were determined. The  $\beta$ -glucan from *Lentinus edodes* and *hordeum vulgare* lowered significantly body weight gain in alloxan induced diabetic mice ( $p < 0.05$ ) and plasma glucose levels compared to that of alloxan-control group.

Plasma triglyceride level in B500 was lowered in alloxan induced diabetic mice and liver HDL-cholesterol level in B500 was increased significantly ( $p < 0.05$ ). The  $\beta$ -glucan of *hordeum vulgare* lowered weight of liver significantly ( $p < 0.05$ ). In conclusion, it was assumed that  $\beta$ -glucan from *Lentinus edodes* and *hordeum vulgare* have anti-hyperglycemic and anti-obesitic effects by reducing body weight gain and decreasing serum glucose and triglyceride level.