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## **Characterization and immunomodulating activities of polysaccharide from *Lentinus edodes*.**

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### **Source**

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### **Abstract**

The polysaccharide L-II was isolated and purified from the fruiting body of *Lentinus edodes*, which consisted of d-glucopyranose and had the molecular weight of  $2.03 \times 10^5$  Da. We evaluated the effects of the polysaccharide L-II on the cellular immune response of Sarcoma 180-bearing mice. Mice were treated with three doses of the polysaccharide L-II (1, 5, and 10 mg/kg body weight) for 10 days. Tumor weight, relative spleen and thymus weight, delayed-type hypersensitivity (DTH) response, phagocytosis of macrophage, splenocytes proliferation were studied. Concentration of tumor necrosis factor-alpha (TNF-alpha), interferon-gamma (IFN-gamma) and interleukin-2 (IL-2) in mice serum were measured in control and polysaccharide groups. At the dose of 1, 5 and 10 mg/kg, a significant increase ( $p < 0.05$ ) in relative spleen and thymus weight, DTH, phagocytosis of macrophage was observed, as well as a significant decrease in tumor formation. The concentration of TNF-alpha, IFN-gamma in serum increased significantly in the polysaccharide groups compared with the model control group, but IL-2 not. Moreover, the polysaccharide L-II could increase NO production and catalase activity in macrophages. **Results of these studies demonstrated the antitumor activity of the polysaccharide L-II on mice-transplanted sarcoma 180 was mediated by immunomodulation in inducing T-cells and macrophage-dependent immune system responses.**

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