

The Hypoglycemic Effects of *Ganoderma lucidum* (Curt.: Fr.) P. Karst. WK-003 Exo- and Endopolymers Produced by Submerged Mycelial Culture

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The hypoglycemic effect of exo- and endopolymers produced from a submerged mycelial culture of *Ganoderma lucidum* (Curt.: Fr.) P. Karst. WK-003 was investigated in streptozotocin-induced diabetic rats. Both the exo- and endopolymers showed hypoglycemic potential in the experimental animals; however, the former proved more potent than the latter. Administration of exo-polymers (100 mg/kg body weight) lowered the glucose level in plasma (21%) and raised the plasma insulin level (18%) in the diabetic animals. It lowered the plasma total cholesterol, triglyceride, and phospholipid levels by 19%, 44%, and 12%, respectively, and re-

duced the liver total cholesterol, triglyceride, and phospholipid levels by 21%, 47%, and 20%, respectively. Also, it lowered the plasma low-density lipoprotein (LDL)-cholesterol and atherogenic index levels by 64% and 67% respectively, and increased the high-density lipoprotein (HDL) to total cholesterol ratio by 55%. The GPT and GOT also showed lower activity in the exopolymer-administered groups than in other experimental groups. The results suggest that *G. lucidum* exopolymers could be useful in preventive and therapeutic approaches to the alleviation of the hypoglycemic status in diabetes mellitus.