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SHEEPHEAD MUSHROOM (*GRIFOLA FRONDOSA*) ALLEVIATES OBESITY AND HYPERGLYCEMIA IN DB/DB MICE

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The sheephead mushroom (*Grifola frondosa*, GF) that contains several physiologically active compounds, of which polysaccharides, specifically β -glucans. Its efficacy as to possess various promising bioactivities, mainly including anti-tumor and anti-oxidation, immunomodulation, anti-hyperglycemia. This study aimed to investigate the possible protective or ameliorative effect of GF on obesity and anti-hyperglycemia in diabetic mice. Forty male and female genetically diabetic mice (BKS.Cg- $+$ Leprdb/ $+$ Leprdb/OlaHsd) were used and divided into five groups, 5 animals each; at the dose of 0, 75, 150, and 300 mg/kg BW GF extract mixed with fed and insulin treat group. After eight weeks of feeding, serum biochemistry, histopathological, and immunohistochemical defining were performed. In contrast to the control group, treat groups caused significant decreased in absolute and relative weights of major organs, levels of insulin as well as leptin and triglyceride in plasma demonstrated a change similar to blood glucose with feeding of sheephead mushroom. These results suggest that the long term *G. frondosa* consumption alleviates the obesity and hyperglycemia in diabetic mice and to provide biological activities of *G. frondosa* polysaccharides to support their further therapeutic potentials.

Biography

D. Kim graduated from the college of veterinary medicine and earned his doctorate degree at Seoul National University, South Korea in a research paper on the production of transgenic pigs by somatic cell nuclear transfer in 2003. The same year, he joined the Department of Life Sciences at Gacheon University and became a professor. He served as a school affairs committee member, head of the student ministry, and vice chairman of the committee on animal ethics, and lectures on developmental biology are being conducted. Major areas of interest are diabetes, sarcopenia, pulmonary fibrosis and tendinopathy animal model.

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