HYPOGLYCEMIC EFFECT OF MUNG BEAN COAT IN db/db MICE

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Tight control of blood glucose is the primary goal of treatment of diabetes mellitus. The purpose of this study was to investigate the hypoglycemic effect of mung bean coat in animal model of type 2 diabetes. Four-week-old male C57BL/KsJ-db/db mice (n=14) were fed AIN-93G diet or diet containing ethanol extract of mung bean coat at 1% for 7 weeks after one week of adaptation. The animals were sacrificed after an overnight-fasting and serum glucose and insulin and blood glycated hemoglobin levels were measured. HOMA-IR (Homeostasis model assessment-insulin resistance) was calculated. Mung bean coat extract decreased serum glucose and blood glycated hemoglobin levels compared with the control group by 23.7% and 13.5%, respectively (p<0.05). Serum insulin levels were not significantly different between the two groups. HOMA-IR values of mung bean coat group were significantly reduced compared with the control group by 27.9% (p<0.01). Thus, hypoglycemic effect of mung bean coat could be partly due to improvement of insulin sensitivity. These results indicate that mung bean coat is beneficial in management of type 2 diabetes by controlling blood glucose. This study was supported by the research grant (#911005-2) from the projects for the ‘Globalization of Korean Foods’, which is gratefully appreciated.