

A study of buckwheat Taichung No.2 applying to type 2 diabetic mice

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Abstract

(1) Background: Buckwheat is an ancient cultivatable crop containing various nutrients and flavonoids with wide range of health benefits including anti-diabetes. By using recently developed new species of buckwheat (Taichung No.2), the aim of the current study is to evaluate anti-diabetes effects of Taichung No.2 on type 2 diabetic mice induced by high fat diet combined with streptozotocin injection.; (2) Methods: Type 2 diabetic mice fed with 3% and 10% Taichung No.2 in diet were measured for weekly fasting blood sugar, HbA1c, HOMA-index, pancreatic histopathology, and endocrine hormone profile.; (3) Results: Consumption of 10% Taichung No.2 in diet provided hypoglycemic effects. Improvement of beta-cell function appeared to be the main reason for blood glucose lowering effects. The increment GLP-1, adiponectin, and leptin levels were observed in mice with Taichung No.2 supplement. (4) Conclusions: Taichung No.2 consumption provides its health benefits related to GLP-1 mediated hypoglycemic and beta-cell protective effects on T2D subjects.

Keywords: buckwheat; type 2 diabetes; glucagon like peptide 1; adiponectin; beta-cell function

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