

Insulin secretory activity and mechanism of compound K

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Purpose: Panaxadiols are more potent than panaxatriols as far as insulin secretory activity is concerned. In this study, we examined insulin secretory activity and mechanism of compound K (CK), a major intestinal bacterial metabolite of ginsenosides.

Method: Insulin secretory activity of CK was examined using pancreatic beta cells and in Oral Glucose Tolerance Test assay. In addition, insulin secretory mechanism was studied in terms of calcium dependent or independent pathways.

Results: In vitro, CK enhanced the insulin secretion concentration-dependently when compared to glucose-stimulated control cells. Insulin secretory mechanism of CK seems to block ATP sensitive K channels, which was confirmed by diazoxide (K channel opener) but, insulin resistance ameliorating activity of CK can't be ruled out. In vivo, CK showed hypoglycemic effect in OGTT.

Keywords: compound K ; Insulin secretion ; hypoglycemic effect ; ATP sensitive K channels

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