

Weight Gain Reduction in Mice fed *Panax Ginseng* saponin, a Pancreatic Lipase Inhibitor

Zohar Kerem, Ram Reifen, and Naama Karu

The Institute of Biochemistry, Food Science and Nutrition, The Faculty of Agricultural, Food and Environmental Quality Sciences, The Hebrew University of Jerusalem, Rehovot, Israel

Roots of the herb *Panax ginseng* are known to contain high levels of bioactive saponins. Here, we isolated saponins from ginseng root powder and studied their inhibitory effect on the absorption of dietary fat in male Balb/c mice. Consumption of ginseng saponins suppressed the expected increase in body weight and plasma triacylglycerols, following a high-fat diet and observed higher intake. Consumption of ginseng saponins had no effect on the concentration of the total plasma cholesterol in both chow and high-fat diets in mice. The mode by which saponins from ginseng inhibit lipid metabolism was assessed as the *in vitro* inhibition of pancreatic lipase. Ginseng saponin inhibited pancreatic lipase with an apparent IC₅₀ value of 500 µg/mL. Our results suggest that the anti-obesity and hypolipidemic effects of Ginseng in high-fat diet-treated mice was attributed to the isolated saponin fraction. These metabolic effects of the ginseng saponins may be mediated by inhibition of pancreatic lipase activity. The inhibition of lipid absorption by other dietary saponins will also be presented.