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Abstract

This study was performed to examine the effect of consumption of pork-liver protein hydrolysate (PLH) on body fat accumulation in Otsuka Long-Evans Tokushima Fatty (OLETF) rats as a non-insulin-dependent diabetes mellitus model and in Long-Evans Tokushima Otsuka (LETO) rats as a control. Male 20-week-old OLETF and LETO rats were pair-fed either PLH or casein containing diet for 14 weeks. In the OLETF rats, dietary PLH significantly reduced the growth and weight of fat pad including perirenal and epididymal adipose tissues. Consumption of PLH markedly suppressed hepatic activities of lipogenesis enzymes such as glucose-6-phosphate dehydrogenase and fatty acid synthase and slightly elevated fecal excretion of total fat. In the LETO rats, growth and adipose tissue weight were unaffected by dietary treatment. The results suggest that PLH is a novel ingredient suppressing body fat in genetically obese rats by reducing lipogenesis.

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