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Abstract

Effects Of The Cowpea Gln-Asp-Phe Peptide Daily Administration in Rats Fed A Saturated High-Fat Diet

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Abstract: Previous studies showed that the QDF peptide derived from cowpea β-vignin have the potential to lower cholesterol synthesis through a statin-like regulation mechanism, *in vitro*. In this study, we showed the effects of daily oral administration of the QDF peptide in rats fed high saturated-fat diet (HC) by 21 days. Rats were divided into the following groups: *i.* Dyslipidemic (DG), received the HC diet (glucose, 30 g/100 g; hydrogenated lard, 30 g/100 g; and cholesterol, 0.5 g/100 g).*ii.* HC+QDF, received HC diet, plus QDF peptide (10 mg/bw/day), and *iii.* HC+SVT, received HC diet, plus simvastatin (10 mg/bw/day). Food intake and feeding efficiency ratio were similar among DG group and treatment groups, indicating that these parameters were not affected. The growth animals' simvastatin treatment had minor (16%) gain weight at 21st day. HC+QDF group had lower (-23%) plasma triglycerides concentration than DG group, but there were no differences between total cholesterol concentration. HC+SVT group had a decrease in the total cholesterol (-21%) and triacylglycerols concentrations (-23%), but glucose concentration showed significant increase (+27%) compared to DG. Results showed that administration of QDF peptide promoted reduction of triglycerides in plasma but didn't affected glucose concentration in rats fed rich-fat and sugar diet.