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Effect of partially hydrolyzed curdlan on serum and hepatic cholesterol concentrations, and cecal fermentation in rats

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A significant reduction was observed for serum and hepatic cholesterol concentrations in the rats fed diet containing a 5% partially hydrolyzed curdlan (PHCD), whereas only the hepatic cholesterol concentration was decreased in the curdlan (CD)-fed rats. The cecal contents in the CD group contained a significantly larger amount of short-chain fatty acids, but not those in the PHCD group. CD, but not PHCD, significantly increased the population of cecal bifidobacteria. From the in vitro fermentation test with cecal contents from cellulose powder (CP) and CD-fed rats, PHCD proved to be easily fermented by both cecal contents; incidentally CD was more susceptible to the cecal contents from CD-fed rats than to those from CP-fed rats. These results suggest that PHCD is involved in the modulation of lipid metabolism and intestinal microflora through a different manner from the native CD in rats.