Studies on Functional Compounds and Bioactivities of Yoghurt Added with Monascus Extract

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ABSTRACT

To meet the market demand, functional foods is one of the important development goals for food industry recently, including probiotics which occupies a higher market share of health foods. The purpose of this study is to develop a kind of probiotic products-yoghurt added with Monascus extract as a natural pigment to investigate physicochemical properties, antioxidant capacity, functional compounds and bioactivities of the products as compare the control. The results are shown as the follows：Yoghurt added with Monascus extract has higher in pH value, titratability and moisture content ($p<0.05$), but lower in lactic acid bacterial counts than the control (without Monascus extract). However, the lactic acid bacterial counts for all the yoghurt samples are higher than 1010CFU/mL. For antioxidant capacity, the DPPH and superoxide free radical scavenging capacities and reducing power of the yoghurt samples added with Monascus extract are higher those of control ($p<0.05$). The functional compound-monacolin K from Monascus extract is not found in the yoghurt added with Monascus extract. In order to investigate physiological activity of yoghurt added with Monascus extract, animal feeding test was also carried out. Thirty male hamsters with high blood lipids breed were divided into five groups：1. Normal diet (hamster fed with commercial feed), 2. high fat diet (hamster fed with commercial feed plus 15% soy oil and 0.5% cholesterols), 3. Control (hamster fed with high fat diet plus yoghurt without Monascus extract), 4. A group (hamster fed with high fat diet plus yoghurt with not filtrated Monascus extract), 5. B group (hamster fed high fat diet plus yoghurt with Monascus extract filtrated). All test animals were carried on inducting treatment for 5 weeks, then going to formal feeding test for 8weeks. During feeding test, blood samples of the testing animals were collected at 4th and 8th weeks for analyses of total cholesterols (TC), triglycerides (TG), high density lipoprotein (HDL) and low density lipoprotein (LDL) levels in blood. The results showed that the animals fed Manscus extract had lower level of total cholesterols in blood. It was also found that the HDL level was higher in the animals fed the control yoghurt and the yoghurt plus Monascus extract after 8 weeks, but lower in LDL level than other groups of animals.

Keywords : onascus extract、Yoghurt、Lactic acid bacteria、blood lipid

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