

# Antioxidant Activities of Domestic Keelung Yam Yought and its Effect on Lipid Metabolism of High Fat

李宗鴻、李世傑

E-mail: 345431@mail.dyu.edu.tw

## ABSTRACT

In present research, health beneficial effects of yogurt made of Keelung yam with ABL5 inoculation were studied. Male Sprague-Dawley (SD) rat model induced by high cholesterol was used in two phases of experiments to explore the protective effect of yam yogurt under high fat diet. The purpose of first phase of animal experiments was to see the hypolipidemic effect of yam yogurt with or without nanolized using SD rat. They were four treatment groups: (A) induced by high fat control group (Control) - not taking any yogurt, (B) pure acid casein (Yogurt), (C) yam yogurt (Yam Yogurt), (D) nanoparticles yam yogurt (Nano Yam Yogurt); rats are free access to water during feeding six weeks feeding, 1.5 ml tail vein blood was drawn once every week; 1.0 ml serum was use in testing GOT, GPT, CRE, CHO, TG, HDL, LDL, etc. The results have showed that feeding yam yogurt can significantly reduced the levels of blood LDL CRE, GOT and GPT; and HDL level increased. However, nanolized yam yogurt seems not to have no additional additive effect. Although the body weight of (B) and (C) decreased significantly, they are no significant differences were observed. Same SD rats used in first phase of the animal experiment, after fed a normal diet for a year (fifty-four weeks; aged SD rats), were advanced to the second stage, where the hypolipidemic and anti-fatigue. The results showed that the feeding of yam yogurt can significantly lower the levels of total cholesterol and triglyceride. For those old SD rats, feeding of yam yogurt have better hypolipidemic and anti-fatigue activity than high fat group up to 80%. During two weeks storage of yam yogurt, the acidity remained at 4.8-4.2, without significant change. Yam yogurt's lactic acid bacteria was measured up to  $4.9 \times 10^9$  CFU / mL. Anti-oxidation experiment also confirmed that it has good free radical scavenging activity and Chelating capabilities ferrous. Based on the above findings, suggesting that this experiment rats eating yam yogurt may improve due to the high-fat diet caused by the accumulation of total cholesterol and triglycerides, also may have elevated blood levels of HDL and lower LDL and anti-fatigue function, but also will not cause the human liver and kidney burden. Recommend people who began to develop the habit of taking yam acid curd, and adulthood continue to take, to improve cardiovascular disease in people growing problem.

Keywords : Keelung yam、yogurt、hypolipidemic、anti-fatigue、anti-oxidation、SD rat

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