中文題目: Alcalase Potato Protein Hydrolysate 在高脂老化鼠之心臟保護作用

英文題目: The Heart Protection Effect of Alcalase Potato Protein Hydrolysate is through IGF1R-PI3K-Akt Compensatory Reactivation in Aging Rats on High Fat Diets

作　　者: 胡幃勛[1], 張坤正[1], 陳明豐[1], 陳志鴻[1], 黃志揚[2]

服務單位: 中國醫藥大學附設醫院心臟科[1] 中國醫藥大學基礎醫學研究所[2]

Background: The prevalence of obesity is high in older adults. Alcalase potato protein hydrolysate (APPH), a nutraceutical food, might have greater benefits and be more economical than hypolipidemic drugs.

Methods: In this study, serum lipid profiles and heart protective effects were evaluated in high fat diet (HFD) induced hyperlipidemia in aging rats treated with APPH (15, 45 and 75 mg/kg/day) and probucol (500 mg/kg/day).

Results: APPH treatments reduced serum triacylglycerol (TG), total cholesterol (TC), and low density lipoprotein (LDL) levels to the normal levels expressed in the control group. Additionally, the IGF1R-PI3K-Akt survival pathway was reactivated, and Fas-FADD (Fas-associated death domain) induced apoptosis was inhibited by APPH treatments (15 and 45 mg/kg/day) in HFD aging rat hearts. APPH (75 mg/kg/day) rather than probucol (500 mg/kg/day) treatment could reduce serum lipids without affecting HDL expression.

Conclusion: The heart protective effect of APPH in aging rats with hyperlipidemia was through lowering serum lipids and enhancing the activation of the compensatory IGF1R-PI3K-Akt survival pathway.

Keywords: hyperlipidemia; alcalase potato protein hydrolysate; aging