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Anti-inflammation and colorectal cancer cell inhibition effects of enzyme treated pectin

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Pectin is a form of natural saccharide existing in the cell wall of plants. Pectic-enzyme treated pectin (PET pectin) could inhibit the growth of food-spoiling bacteria, enhance food emulsion, inhibit lipid peroxidation and inhibit the growth of human cancer cells. Among the enzyme-modified pectin, the fragments with molecular weight less than 1kDa exhibited the highest inducing effect. When proinflammatory mediators and cytokines are over-expressed during inflammation, it may cause various inflammatory diseases. This research found that modified pectin was non-toxic to macrophage RAW 264.7 and it reduced the NO content by 20% induced by lipopolysaccharide. Western blot method showed that after the enzyme treatment of pectin can reduce inflammatory protein performance, such as COX-2, NF-kB and TNF- α . PET pectin is expected to be used as a dietary supplement in the future to prevent inflammation.

Biography

Ying-Che Huang has obtained his Bachelor of Science Fooyin University of Science Technology in 2006, succeeded in acquiring the Master of Science in National Pingtung University of Science and Technology in 2016, being successful to study the doctor program of biological resources of Agriculture College of National Pingtung University of Science and Technology. He is employed to take the position either as a factory Director in Chia Wai Hsiang Food Industry Co., Ltd in Taiwan or as a Vice President of product development in Shanghai Jocund Food Service Co., Ltd in Shanghai. In the field of academics, he is the Lecturer in Meiho University of Science Technology Department of Food Science and Nutrition, Fooyin University of Science Technology Department of Biotechnology, and National Kaohsiung Marine University and was awarded the Food Science and Technology Outstanding food Entrepreneur by Taiwan Association in 2016. Nowadays, he is engaged in investigating the application of natural food in improving the symptom of type 2 diabetes.

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