WINGED BEAN SEED [*PSOPHOCARPUS TETRAGONOLOBUS (L.) DC.*]: A SOURCE OF BIFUNCTIONAL PROTEOLYSATE WITH ACE-INHIBITORY AND ANTIOXIDATIVE ACTIVITIES

TECHNOLOGY DESCRIPTION

This method describes the way to manufacture bioactive proteolysate from winged bean seed (Phosphocarpus tetragonolobus L.) with antioxidant and angiotensin converting enzyme (ACE) inhibitory properties by using enzymatic proteolysis approach. Three peptide sequences were successfully obtained from this process namely YPNQKV, FDIRA and VSARDLVG.

TECHNOLOGY FEATURES

Proteolysate produced from the process is has functions of ACE inhibitor which is important in regulation of blood pressure and antioxidative activities which will affect the food quality. This product can be incorporated into any suitable food materials to provide health benefits. The peptides characters can be utilized to modify the functional properties of food materials to produce desirable sensory effects.

ADVANTAGES

- Can be consumed as general food product instead of pill or supplement.
- Improves health
- Improve the functional properties of food materials

INDUSTRY OVERVIEW

Prospect: Functional food industry, Biopeptide industry, Bioingredient manufacturer, public with health-conscious awareness

According to the 2011 National Health and Morbidity Survey, one out of three adults aged 30 years old and above in Malaysia suffers from hypertension. As more cases of hypertension is expected by 2025, this product seems to have potential in related areas especially in functional food industry. Globally, the revenue for functional food industry for the year 2013 was approximately USD175 billion and it is estimated to exceed USD230 billion by 2015. Due to lack of information available for functional foods in Malaysia, it can be assumed that Malaysia has an attractive functional food and beverage niche from its large food and beverage market, which is now valued at more than RM 30 billion. In 2011, about 40 percent of total processed and retail packed food and drinks market was contributed by the functional foods. Malaysia-based food manufacturing companies that are involved the production of functional food products include Nestlé Malaysia, F&N (Fraser & Neave) and Kraft.

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