

Encapsulation of Anthocyanin from Purple Potato by the Application of Food Polymers

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Anthocyanins has a strong antioxidant capacity but exhibit poor stability in water. Therefore, stability of anthocyanin from purple potato (*Solanum tuberosum* L.) was encapsulated by the application of food polymers. Solid formulation of purple potato was prepared using whey protein, tapioca and lecithin by capillary rheometer at 80 °C. The ratio of the polymer and potato powder was 2:8. Total phenolic compound, total flavonoid, total anthocyanin and antioxidant activity was investigated by the spectrophotometer. Result revealed that total phenolic compound (TP) (5321 μ g/100g), total flavonoid (TF) (1352 μ g/100g) total anthocyanin (TA) (764 μ g/100g) and free radical antioxidant activity (DPPH) (86%) was higher in 0.01 M acetic acid mediated lecithin based formulation compared to control (Potato powder) (TP: 1357 μ g/100g; TF) (634 μ g/100g, TA) (264 μ g/100g DPPH) (64%). Lecithin is a strong emulsifier having capacity to extract bioactive compound and encapsulate extracted compound by nonpolar tail and negatively charged head. Therefore, it would be concluded that lecithin might be used as an encapsulating agent for the bioactive compound from purple potato.

Keywords: Purple potato, food polymer, encapsulation, phenolic compound

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