

Independent Study Title	Development of Sunscreen Product Containing <i>Areca Catechu</i> Extract
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ABSTRACT

The purpose of this study is to develop sunscreen product containing *Areca catechu* extract. The *A. catechu* extract was prepared by microwave-assisted method and the yield of 16.54% was obtained. It contained phenolic 465 mg GAE/g possessing DPPH radical scavenging and tyrosinase inhibition activities greater than standard trolox and kojic acid, respectively, with IC₅₀ of 3.24 µg/mL and 24.32 µg/mL. Physicochemical and biological properties of the sunscreen containing *A. catechu* extract were also evaluated. The product illustrated the SPF value ranging from 8 to 20 when incorporating the extract from 1 to 3% w/w. While the pH was stable, the viscosity and color of the product were conversely changed with decrease in viscosity but rising in delta E when amount of the extract was increased. The product containing higher extract amount exhibited greater phenolic content, antioxidant power and sunscreensing effect. High temperature storage decreased phenolic content corresponding to radical scavenging activity and sunscreensing capability. With superior cosmetic activity found, the *A. catechu* was promised as a

high potential source for natural sunscreening extraction. However, its color stability enhancement is required to improve the product appearance.

Keywords: *Areca catechu*/Cosmetic activity/Phenolic/Natural sunscreen

