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Development Sunscreen Microemulsion Gel Containing n-Hexane Fraction of Mangosteen Pericarp (*Garcinia mangostana* Linn.).

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ABSTRACT

Sunscreen can protect skin from ultraviolet (UV) radiation, through absorbing, scattering or reflecting radiation. Mangosteen pericarp contain active compounds which can absorb UV rays. The objectives of this research were to determine photoprotective activity of mangosteen pericarp fractions, formulated selected fraction into microemulsion gel dosage forms, and evaluate the physical characteristic and sunscreen activity of the preparation. Extraction was conducted by maceration method using ethanol 96%. Fractionation performed by liquid-liquid extraction using n-hexane, ethyl acetate and water as solvents. Sun protecting factor (SPF) value was determined by Mansur method using Spectrophotometer UV/Vis. The result show that n-hexane fraction had highest value of SPF compared with water and ethyl acetate fractions. Microemulsion gel preparation containing 0.1 % mangosteen n-hexane fractions were stable based on organoleptic, centrifugation, and freeze thaw tests. The SPF value of microemulsion gel as much as 4.01±0.31.

Keywords: Mangosteen , sunscreen, microemulsion gel, n-hexane fraction

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