

## **ABSTRACT**

### **NANOCAPSULATION SOLAR EMULGEL LEAF EXTRACT OF PURPLE SWEET POTATO (*Ipomoea batatas* L.) VARIETY ANTIN-3 (Erythema Value and Pigmentation Value Test)**

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*As a tropical country, Indonesia receives more sunlight. Sunlight contains ultraviolet rays. The effects of exposure to ultraviolet light can cause erythema and pigmentation. Purple sweet potato (*Ipomoea batatas* L.) leaf extract of the Antin-3 variety contains polyphenols and flavonoids. So Antin-3 leaf extract can be used as an alternative to sunscreen and a source of natural antioxidants. Nanocapsulation is the process of coating or wrapping a substance as a core material or active substance with a polymer film with a size between 1 nm and 1000 nm. The purpose of nanocapsulation is to protect the active substance from external factors, increase stability, and increase the absorption of the active substance, thereby allowing its storage to remain safe. This study aims to determine the difference in concentration variations of 0.3%, 0.6%, 0.9% affecting the % erythema value and % pigmentation value obtained using the UV-Vis spectrophotometer method. In all three samples the concentration was 0.3%; 0.6%; 0.9% sunscreen emulgel nanocapsules of Antin-3 leaf extract are all included in the sunblock or total block category, while the base sample is included in the standard suntan category for erythema and extra protection for pigmentation. Spectrophotometer test results for sunscreen emulgel nanocapsules Antin leaf extract-3% base concentration erythema value; 0.3%; 0.6%; 0.9% respectively are 9.9335; 0.4088; 0.0076; 0.0071. Spectrophotometer test results for sunscreen emulgel nanocapsules Antin leaf extract-3% base concentration pigmentation value; 0.3%; 0.6%; 0.9% respectively are 43.1729; 7.7663; 2.0948; 1.1404. Antin-3 leaf nanocapsule emulgel sunscreen at a concentration of 0.3%; 0.6%; 0.9% has an influence on concentration variations on the % erythema value and % pigmentation value, except for the concentration of 0.6% where 0.9% does not have a significant effect on the % erythema value.*

**Keyword :** *Ipomoea batatas* L Antin-3, pigmentation value, erythema value