

**DEVELOPMENT OF SERUM STICK  
USING *CURCUMA XANTHORRIZA*  
(TEMULAWAK) TO RETAIN SKIN  
YOUTH**

**MUMTAZATUL MAHFUZAH BINTI  
MAHADZIR**

**BACHELOR OF SCIENCE(Hons.)  
APPLIED CHEMISTRY  
FACULTY OF APPLIED  
SCIENCES UNIVERSITI  
TEKNOLOGI MARA**

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XANTHORRHIZA*  
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Name : Mumtazatul Mahfuzah binti Mahadzir  
Student ID : 2021459528  
Program : AS245  
Course code : FSG671  
Mobile Phone :  
E-mail : mumtazatul608@gmail.com

**Approval by Main Supervisor :**

I certify that the work conducted by the above student is completed and approve this report to be submitted for evaluation.

Supervisor's name : Madam Azira Irma Muhammad  
Date : 27 July 2024  
Turnitin Similarity % : 19  
Signature :

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**MUMTAZATUL MAHFUZAH BINTI MAHADZIR**

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## ABSTRACT

### **DEVELOPMENT OF SERUM STICK USING *CURCUMA XANTHORRHIZA* (TEMULAWAK) TO RETAIN SKIN YOUTH**

Incorporation of natural active ingredients like *Curcuma xanthorrhiza* (*C. xanthorrhiza*) extract into solid skincare products can offer potential benefits for skin health. *C. xanthorrhiza* has been widely used for its beneficial effects since years ago. The usual conventional route of use is by powder, capsule, lotion and moisturizer. This study investigated the potential of *C. xanthorrhiza* extract for topical application. The extract was obtained using Soxhlet extraction with ethanol, achieving a yield of 8.84% and 7.47%. The extract exhibited a promising IC<sub>50</sub> value of 20.86 ppm, indicating significant antioxidant activity. Additionally, the total phenolic content (TPC) was 45.71 ± 0.36 mgGAE/g, and the total flavonoid content (TFC) was 30.06 ± 0.41 mgQE/g, suggesting the presence of potentially beneficial bioactive compounds. A serum stick formulation was developed incorporating the *C. xanthorrhiza* extract that maintained a slightly acidic pH of 5.018 that aligns with healthy skin's natural pH. This research lays the groundwork for further development of *Curcuma xanthorrhiza* extract-based topical products with potential antioxidant properties. Future studies could explore the efficacy and safety of the formulated serum stick in clinical trials.

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