
Specification : Jamun Fruit Extract / สารสกัดผลหว่า (Manose RM-0087)

**(Application : An active ingredient for anti-aging and whitening cosmetic products/
anti-inflammatory food supplement products / สารสำคัญในผลิตภัณฑ์เครื่องสำอางต้านริ้วรอย
และช่วยให้ผิวขาว/ผลิตภัณฑ์เสริมอาหารต้านการอักเสบ)**

1. Name of the raw material : Jamun Fruit Extract
2. Active components : Anthocyanins, diglucosides of delphinidin, petunidin, malvidin, peonidin, cyanidin and volatile oils⁽¹⁾
3. Common and scientific name/ Family of the plant : Jamun (*Syzygium cumini* (L.) Skeels/ MYRTACEAE)
4. Physical appearance : Dark brownish solid
5. pH : 4
6. Standardization : HPLC fingerprint using cyanidin 3-glucoside (anthocyanins) as a marker⁽²⁾
Anthocyanins is unstable at high temperature, stable at room temperature for 2 months⁽³⁾ and pH 2.5, 3 and 8⁽⁴⁾
7. Solubility : Soluble in water and alcohol⁽⁵⁾
8. Microbial contamination : No pathogenic microorganism with less than 1,000 cfu/g of the total plate count of bacteria, yeast and fungi which is conformed to the Thai FDA regulation⁽⁵⁾
9. Biological activities :
 - Antioxidative activity by DPPH radical scavenging with the SC₅₀ value of 0.39±0.00 mg/ml (ascorbic acid = 0.08±0.01 mg/ml)⁽⁵⁾
 - Anti-inflammatory activity of inhibiting denaturation by heat of albumin from egg white with the IC₅₀ value of 1.00±0.06 mg/ml (diclofenac diethylammonium = 0.24±0.04 mg/ml)⁽⁵⁾
 - Anti-inflammatory activity in macrophage cells at 0.1

- mg/ml by inhibiting nitric oxide production of
19.67±1.34% (Triamcinolone acetonide =
17.20±2.25%)⁽⁵⁾
- Tyrosinase inhibition activity *in vitro* with the IC₅₀ value of 1.67±0.26 mg/ml (kojic acid = 0.03±0.02 mg/ml)⁽⁵⁾
 - Wound healing activity by migration of human skin fibroblasts to cover the scratch within 48 hours⁽⁵⁾
10. Animal / human performance test : -
 11. Safety : No cytotoxicity on human skin fibroblasts with cell viability of 95.51±1.71% at 1 mg/ml⁽⁵⁾
 12. Pharmaceutical, food supplement or cosmetic applications : Cosmetic products for anti-aging and whitening⁽⁵⁾ and food supplement products for anti-inflammation
 13. Recommended concentrations in the product : 1 – 5 %w/w for cosmetic products⁽⁵⁾ and 0.1-10% w/w for dietary supplement products (the solid crude extract 0.1%, while 10% for the 1% crude extract in propylene glycol)
 14. Storage : Keep in tight and light protection container at low temperature
 15. Precautions : None
 16. Cost per kg : Please request

References

1. Swami S.B. and Kals S.B. Bioactive compounds in jamun (*Syzygium cumini* L.) Skeels. *The Pharma Innovation Journal*, 2020; 9(11): 161-167.

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2. Aqil F., Gupta A., Munagala R., Jeyabalan J., Kausar H., Sharma R., Singh I.P. and Gupta R.C. Antioxidant and antiproliferative activities of anthocyanin/ellagitannin-enriched extracts from *Syzygium cumini* L. ('Jamun', the Indian Blackberry). *Nutr Cancer*. 2012; 64(3): 428–438.
 3. Santiago M., Gouvêa A., Peixoto F., Borguini R., Godoy R., Pacheco S., Nascimento L. and Nogueira R.. Characterization of jamelão (*Syzygium cumini* (L.) Skeels) fruit peel powder for use as natural colorant. *Fruits*, 2016; 71(1): 3-8.
 4. El-Mesiry D.M., El Desoky S.M., El-Razek R.H.A. and Ahmed M.F. Characteristics of children marshmallow candy colored by natural anthocyanin extract from Jamun (*Syzygium cumini*) during cold storage. *J. of Food and Dairy Sci.*, 2021; 12 (8): 189 -194.
 5. Manose In-house Project “Biological activity of jamun (*Syzygium cumini* L.) Skeels extracts” Manose Health and Beauty Research Center (www.manose.co), unpublished, 2022.