

Specification : Monkey Jack Heart Wood Extract / สารสกัดมะหาด  
(Manose RM-0028)

(Application : An active ingredient for whitening / anti-wrinkle cosmetics and food supplements / สารสำคัญในผลิตภัณฑ์เครื่องสำอางช่วยให้ผิวขาวและต้านริ้วรอยและผลิตภัณฑ์เสริมอาหาร)

1. Name of the raw material : Monkey Jack Heart Wood Extract (solid) / 10 % Monkey Jack Heart Wood Extract (in propylene glycol)
2. Active components : Phenolic acids, flavonoids and stilbenoids<sup>(1), (2)</sup>
3. Common and scientific name/ Family of the plant : Monkey Jack (*Artocarpus lakoocha* Roxb. ex Buch.-Ham.)/ MORACEAE
4. Physical appearance : Brownish solid with specific herbal odor (solid) / Brownish liquid with specific herbal odor (10 % in propylene glycol)
5. pH : 5
6. Standardization : HPLC fingerprint using oxyresveratrol as a marker<sup>(2)</sup>
7. Solubility : Soluble in water and ethanol
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
9. Biological activities : Anti-oxidative activities (DPPH, lipid peroxidation and chelating activity) and whitening effect by tyrosinase inhibition

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10. Animal / human performance test : Anti-wrinkle and whitening in human volunteers<sup>(3)</sup>
  11. Safety : No skin irritation in human volunteers
  12. Pharmaceutical, food supplement or cosmetic applications : Whitening / anti-wrinkle cosmetics and food supplements
  13. Recommended concentrations in the product : 0.1 - 5 % w/w (for the solid extract) and 1  
- 10 % w/w (for the solid extract in propylene glycol)
  14. Storage : Keep in tight and light protection container at room temperature
  15. Precautions : None
  16. Cost per kg : Please request

## References

1. Hossain MF, Islam MA, Akhtar S, Numan SM. (2016) Nutritional value and medicinal uses of monkey Jack fruit (*Artocarpus lakoocha*). **International Research and Journal of Biological Sciences**. 5(1): 60-63
2. Palanuvej C, Issaravanich S, Tunsaringkarn T, Rungsiyothin R, Vipunngun N, Ruangrunsi N, Likhitwitayawuid K. (2007) Pharmacognostic study of *Artocarpus lakoocha* heartwood. **Journal of Health Research**. 21(4): 257-262