

Specification : Mixed plant extract loaded cyclodextrin suspension /

สารสกัดสมุนไพรผสมเก็บกักในไซโคลเด็กซ์ตริน

(Manose RM-0051)

(Application : An active ingredient for anti-aging and whitening cosmetics/

สารสำคัญในผลิตภัณฑ์เครื่องสำอางชะลอวัยและช่วยให้ผิวขาว)

1. Name of the raw material : Mixed plant extract loaded in cyclodextrin
2. Active components : Gallic acid, resveratrol, curcumin, tannin และ phenolic compounds
3. Common and scientific name/ Family of the plant : Terminalia Gall (*Terminalia chebula* Retz. gall)/ COMBRETACEAE, Monkey Jack (*Artocarpus lakoocha* Roxb.)/ MORACEAE, Golden shower (*Cassia fistula* L.)/ LEGUMINOSAE-CAESALPINOIDEAE and Turmeric (*Curcuma longa* L.)/ ZINGIBERACEAE
4. Physical appearance : Light brownish solid with specific herbal odor
5. pH : 5 - 7
6. Standardization : HPLC fingerprint using gallic acid, curcumin, tannin and resveratrol as markers
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 :
  - Antioxidant activity by DPPH radical scavenging with the  $SC_{50}$  value of  $2.43 \pm 0.13$  mg/ml ( $SC_{50}$  value of ascorbic acid =  $0.02 \pm 0.00$  mg/ml)
  - Tyrosinase inhibition activity with the  $IC_{50}$  value of  $1.15 \pm 0.16$  mg/ml ( $IC_{50}$  value of kojic acid = 0.03)

± 0.00 mg/ml)

- Anti-inflammation activity of inhibiting denaturation by heat of albumin from egg white with the IC<sub>50</sub> value of 2.53 ± 0.04 mg/ml (IC<sub>50</sub> value of diclofenac = 0.19 ± 0.03 mg/ml)

10. Animal / human performance test : Anti-aging and whitening in human volunteers<sup>(2)</sup>
11. Safety : No skin irritation in human volunteers
12. Pharmaceutical, food supplement or cosmetic applications : Anti-aging / whitening cosmetics
13. Recommended concentrations in the product : 0.1 – 5 % w/w
14. Storage : Keep in tight and light protection container at room temperature
15. Precautions : None
16. Cost per kg : Please request

## References

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