

Specification : Gotu Kola extract / สารสกัดใบบัวบก (Manose RM-0003)

(Application : An active ingredient for anti-aging, anti-inflammation and bruises reduction in cosmetic products/ memory enhancement in food supplements / สารสำคัญในผลิตภัณฑ์เครื่องสำอางชะลอวัย ด้านการอักเสบ ฟกช้ำ และผลิตภัณฑ์เสริมอาหารเพื่อเพิ่มความจำ)

1. Name of the raw material : Gotu Kola extract (solid crude extract/ extract solution)
2. Active components : Triterpene acids, alkaloids, glycosides and flavonoids⁽¹⁾
3. Common and scientific name/ Family of the plant : Gotu Kola (*Centella asiatica* (L.) Urb.)/
UMBELLIFERAE
4. Physical appearance : Dark brownish-green solid with herbal odor (for solid crude extract) and light greenish brown clear solution with herbal odor (for extract solution)⁽²⁾
5. pH : 5 – 7⁽²⁾
6. Standardization : HPLC fingerprint using madecassoside as a marker⁽²⁾
7. Solubility : Soluble in water and ethanol⁽²⁾
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⁽²⁾
9. Biological activities :
 - Anti-inflammation, wound healing, memory enhancement and anti-oxidation (anti-aging)⁽¹⁾
 - Crude and semi-purified extract exhibited anti-inflammatory activity by inhibiting albumin

denaturation with the IC_{50} values of 3.06 ± 0.06 and 2.70 ± 0.06 mg/ml, respectively, while the IC_{50} value of diclofenac diethylammonium, the standard anti-inflammatory drug is 1.58 ± 0.03 mg/ml.⁽²⁾

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| 10. Animal / human performance test | : | Anti-inflammation and wound healing in human volunteers ⁽³⁾ |
| 11. Safety | : | No skin irritation in human volunteers ⁽²⁾ |
| 12. Pharmaceutical, food supplement or cosmetic applications | : | Anti-aging, anti-inflammation and bruises reduction in cosmetic products/ memory enhancement in food supplement products |
| 13. Recommended concentrations in the product | : | 0.1-5% w/w (solid crude extract), 1-10% w/w (extract solution prepared as 0.1-5% w/w of the solid crude 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. Jamil SS, Nizami Q, Salam M. (2007) *Centella asiatica* (Linn.) Urban & Schwarzenberg Review. *Natural Product Radiance*. 6(2): 158-170
2. Manose In-house Project : Gotu Kola extract, Manose Health and Beauty Research Center (www.manose.co), unpublished, 2022.
3. Sastravaha G, Yotneungnit P, Booncong P, Sangtherapitikul P. (2003) Adjunctive periodontal treatment with *Centella asiatica* and *Punica granatum* extracts. A preliminary study. *Journal of International Academy of Periodontology*. 5(4): 106-115