

Specification : Mixed Medicinal Plant Extract for Athlete Formula 1/

สารสกัดสมุนไพรผสมสำหรับนักกีฬาสูตร 1 (Manose RM-0089)

(Application : An active ingredient for refreshment, anti-anxiety and muscle building in food supplements for athlete / สารสำคัญในผลิตภัณฑ์อาหาร/เสริมอาหารสำหรับนักกีฬาเพื่อเพิ่มความสดชื่น ลดความเครียดและเสริมสร้างกล้ามเนื้อ)

1. Name of the raw material : Mixed Medicinal Plant Extract for Athlete Formula 1
2. Active components : Triterpene acids, alkaloids, glycosides, flavonoids⁽¹⁾, 5,7-dimethoxyflavone and 5,7,4'-trimethoxyflavone⁽²⁾
3. Common and scientific name/ Family of the plant : Gotu Kola (*Centella asiatica* (L.) Urb.)/ UMBELLIFERAE and Black Ginger (*Kaempferia parviflora* Wall ex. Baker)/ ZINGIBERACEAE
4. Physical appearance : Dark brownish solid with herbal odor (for solid crude extract) and light brown clear solution with herbal odor (for extract solution)⁽³⁾
5. pH : 5 – 7⁽³⁾
6. Standardization : HPLC fingerprint using madecassoside⁽³⁾ and 5,7-dimethoxyflavone⁽²⁾ as markers
Madecassoside is stable at 4 °C and light protection condition.⁽³⁾ 5,7-dimethoxyflavone is stable at room temperature and light protection condition.⁽²⁾
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⁽³⁾
9. Biological activities : - Anti-inflammation, wound healing, memory enhancement and anti-oxidation (anti-aging)⁽¹⁾

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- 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.⁽³⁾
 - Anti-anxiety⁽⁴⁾, anti-cancer⁽⁵⁾, vascular relaxation⁽⁵⁾ and sexual enhancing activity⁽⁵⁾
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| 10. Animal / human performance test | : | <ul style="list-style-type: none"> - Anti-inflammation and wound healing in human volunteers⁽⁶⁾ - Sexual enhancing activity in animals⁽⁷⁾ |
| 11. Safety | : | No skin irritation in human volunteers / $LD_{50} > 5$ g/kg BW when administered orally in rats |
| 12. Pharmaceutical, food supplement or cosmetic applications | : | Anti-aging, anti-inflammation and bruises reduction in cosmetic products/ memory enhancement, anti-anxiety, refreshment, anti-inflammatory, anti-oxidant, anti-cancer, vascular relaxation and sexual enhancing/ muscle building in food supplements |
| 13. Recommended concentrations in the product | : | 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 room temperature |
| 15. Precautions | : | None |
| 16. Cost per kg | : | Please request |

References

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5. Chen D, Li H, Li W, Feng S and Deng D. *Kaempferia parviflora* and its methoxyflavones: Chemistry and biological activities. Evidence-Based Complementary and Alternative Medicine 2018, Article ID 4057456.
6. 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 Peridontology. 5(4): 106-115.
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