

Specification : Ginger extract / สารสกัดขิง (Manose RM-0053)

(Application : An active ingredient for anti-inflammation and cosmetics/
สารสำคัญในผลิตภัณฑ์ด้านการอักเสบ และเครื่องสำอาง)

1. Name of the raw material : Ginger extract
2. Active components : Volatile oil, alkaloids, saponins, tannins, flavonoids and terpenoids⁽¹⁻²⁾
3. Common and scientific name/ Family of the plant : Ginger (*Zingiber officinale* Roscoe)/ ZINGIBERACEAE
4. Physical appearance : Pale brown powder with specific herbal odor
5. pH : 5
6. Standardization : HPLC fingerprint using gingerol as a marker⁽¹⁾
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-oxidant⁽³⁾, anti-inflammation⁽⁴⁾, anti-arthritic effect⁽⁵⁾
10. Animal / human performance test : Anti-inflammation and anti-arthritic effect in human volunteers⁽⁴⁻⁵⁾
11. Safety : No skin irritation in human volunteers
12. Pharmaceutical, food supplement or cosmetic applications : Anti-inflammation and cosmetic products
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** : Due to irritation, avoid contact with eyes or soft tissue. Do not use in children under 6 years old
16. **Cost per kg** : Please request

References

1. Ginger. University of Maryland Medical Centre. (2006) Retrieved 2 August 2007.
2. Bhargava S, Dhabhai K, Batra A, Sharma A, Malhotra B. (2012) *Zingiber officinale*: Chemical and phytochemical screening and evaluation of its antimicrobial activities. **Journal of Chemical Pharmaceutical Research.** 4(1): 360-364
3. Watson, R. (2015) Foods and Dietary Supplements in the prevention and treatment of disease in older adults (1st ed.). **Academic Press**, USA.
4. Black CD, Herring MP, Hurley DJ, O'Connor PJ. (2010) Ginger (*Zingiber officinale*) reduces muscle pain caused by eccentric exercise. **The Journal of Pain.** 11(9): 783-789
5. Wigler I, Grotto I, Caspi D, Yaron M. (2003) The effect of Zintona EC (a ginger extract) on symptomatic gonarthrosis. **Osteoarthritis Cartilage.** 11(11): 783-789