

Specification : MAPED Lanna Medicinal Plant Extract for Tonics and the Relief of Erectile Dysfunction in Andropause Men/ สารสกัดจากตำรับยาสมุนไพรล้านนา MAPED สำหรับบรรเทาอาการเสื่อมสมรรถภาพทางเพศในบุรุษวัยทอง (Manose RM-0096)

(Application : An active ingredient in food supplements for tonics and the relief of erectile dysfunction in andropause men/ สารสำคัญในผลิตภัณฑ์เสริมอาหารสำหรับบรรเทาอาการเสื่อมสมรรถภาพทางเพศในบุรุษวัยทอง)

1. Name of the raw material : MAPED Lanna Medicinal Plant Extract for Tonics and the Relief of Erectile Dysfunction in Andropause Men
2. Active components : Flavonoid, alkaloid and triterpenoid/steroid
3. Common and scientific name/ Family of the plant : Extracts from edible and medicinal plants such as Fingerroot<sup>(1)</sup> (*Boesenbergia rotunda* (Linn.) Mansf./ ZINGIBERACEAE) and Phlai (*Zingiber cassumunar* Roxb./ ZINGIBERACEAE)
4. Physical appearance : Brown solid with specific odor
5. pH : 6.18 (1% in distilled water)
6. Standardization : HPLC fingerprint with the retention times at 2.825 min (marker = gallic acid)
7. Stability of active constituent : Stable to strong/weak acid, oxidizing agent and acid salt/ Unstable to strong/weak base and reducing agent
8. Solubility : Sparingly soluble in hot water (100 °C), slightly soluble in cold water (25 °C), insoluble in ethanol, methanol, propylene glycol, glycerin and mineral oil
9. 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

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10. **Biological activities**<sup>(2)</sup> : - Antioxidant DPPH radical scavenging ( $SC_{50} = 3.06$  mg/ml) (standard vitamin C = 0.14 mg/ml)  
- PDE5 inhibition 2.5 times more active than sildenafil (Viagra)
11. **Animal / human performance test** : -
12. **Safety**<sup>(2)</sup> : Cell viability 117.05% at 0.1 mg/ml in human skin fibroblasts (standard vitamin C = 140.21%)/safe for topical use  
 $LD_{50} > 5000$  mg/kg in Wistar rats by oral administration/ considered as practically nontoxic
13. **Pharmaceutical, food supplement or cosmetic applications** : Food Supplements for tonics in erectile dysfunction of andropause men
14. **Recommended concentrations in the product** : 3.03 g/5 days or as needed
15. **Storage** : Keep in tight container at cool place (4 °C) protected from light
16. **Precautions** : None
17. **Cost per kg** : Please request

## References

1. Manosroi A., Tangjai T., Chankhampan C., Manosroi W., Najarut Y., Kitdamrongtham W. and Manosroi J. Potent phosphodiesterase inhibition and nitric oxide release stimulation of anti-impotence Thai medicinal plants from “MANOSROI III” Database. Evid Based Complement Alternat Med. 2017; 2017: 9806976.
2. Manose In-house Project “The Development of Extract from Lanna Medicinal Plant Recipe for Tonics and the Relief of Erectile Dysfunction in Andropause Men (MAPED)” Manose Health and Beauty Research Center (www.manose.co), unpublished, 2007.