

Specification : APTO extract / สารสกัดตำรับยาสมุนไพร APTO
(Manose RM-0024)

(Application : An active ingredient for memory enhancement
food supplements for Alzheimer's patient /
สารสำคัญในผลิตภัณฑ์เสริมอาหารเพิ่มความจำสำหรับผู้ป่วยอัลไซเมอร์)

1. Name of the raw material : APTO extract
2. Active components : Tannins, alkaloids, phenolic compounds⁽¹⁾
3. Common and scientific name/ Family of the plant : Containing Emblic (*Phyllanthus emblica* L.)/
EUPHORBIACEAE, etc.
4. Physical appearance : Purple solid with specific herbal odor
5. pH : 2
6. Standardization : HPLC fingerprint using gallic acid as a marker
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 : Acetylcholine esterase inhibition, anti-oxidant
(DPPH, lipid peroxidation and chelating activity)
10. Animal / human performance test : Memory enhancement in animals⁽²⁾
11. Safety : No skin irritation in human volunteers / LD₅₀ > 5
g/kg BW in rat
12. Pharmaceutical, food supplement or cosmetic applications : Memory enhancement food supplement products
for Alzheimer's patient

13. Recommended concentrations in the product : Content (mg) in the product : 244 mg/capsule
14. Storage : Keep in tight and light protection container at room temperature
15. Precautions : Discontinue use if there is any adverse effect
16. Cost per kg : Please request

References

1. Khan KH. (2009). Roles of *Emblica officinalis* in medicine-A review. **Botany Research International**. 2(4): 218-228
2. Vasudevan M, Parle M. (2007) Memory enhancing activity of Anwala churna (*Emblica officinalis* Gaerth.) an Ayurvedic preparation. **Physiology & Behavior**. 91(1): 46-54