

Specification : Anti-hair Loss Conditioner (Manose PR-0013)

(Application : For anti-hair loss)

1. Name : Anti-hair Loss Conditioner
2. Active Compositions : Mixed Thai medicinal plant extracts [Sorghum (*Sorghum bicolor*) and Soybean (*Glycine max* (L.) Merrill)]
3. FDA Registration No. : In the process of cosmetic product notification with Thai FDA
4. Characteristics
  - Physical appearance : Light yellowish turbid semi-solid
  - pH : 7.10
  - Odor : Light herbal aromatic odor
5. Standardization : HPLC fingerprint using linoleic acid as a marker
6. Biological activities :
  - Anti-inflammatory activity by inhibiting heat denaturation of egg white albumin with the  $IC_{50}$  value of  $2.59 \pm 0.34$  mg/ml which was 0.02 fold of the standard anti-inflammatory drug, diclofenac diethylammonium ( $IC_{50}$  value of  $0.60 \pm 0.02$  mg/ml)
  - $5\alpha$ -reductase inhibition activity of  $24.23 \pm 3.38\%$  at 1 mg/ml which was 0.43 and 0.32 fold of the standard anti-hair loss drugs, dutasteride (10  $\mu$ g/ml) and finasteride (10  $\mu$ g/ml) [ $56.37 \pm 2.15$  and  $74.65 \pm 1.98\%$  inhibition, respectively]
  - Melanin induction activity in melanoma (B16F10) cell line of  $11.41 \pm 7.52\%$  which was 0.12 fold of the standard drug, theophylline ( $93.61 \pm 5.38\%$ )
  - Tyrosinase stimulation activity in melanoma (B16F10) cell line of  $39.41 \pm 3.20\%$  which was 0.06 fold of kojic acid ( $660.00 \pm 8.19\%$ )
  - Antioxidative activity by DPPH radical scavenging with the  $SC_{50}$  value of  $>1000$  mg/ml ( $SC_{50}$  value of vitamin C

= 0.06±0.03 mg/ml)

7. Clinical Performance : -
8. Microbial Contamination : No pathogenic microorganism contamination. The amounts of the aerobic bacteria, yeast and fungi are less than 1,000 cfu/g which is in the acceptable range of Thai FDA, Ministry of Public Health
9. Safety Evaluation :
  - No cytotoxicity in human skin fibroblasts with the viability of 111.22±1.46% at 1 mg/ml
  - No skin irritation in human volunteers by the 4h closed patch test
10. Stability : Passed the physical stability tested by the heating-cooling process (45 and 4 °C) of 6 cycles
11. Shelf life at 30 °C : 3-5 years
12. Indication and use : Conditioning after shampooing, by applying on the hair for 1-2 minutes and then rinse off with clean water
13. Packaging and Storage : 50-100 ml in a bottle / keep in cool/ dry place and protect from light
14. Precaution :
  - For external use only
  - Avoid from inhalation and get into eyes
  - Rinse off and stop using when there is any undesirable effect
15. Cost : Please request