

Specification : Active HG Loaded Nanovesicles for Hair Growth Stimulation/

สารสำคัญกระตุ้นการงอกของเส้นผม HG เก็บกักในอนุภาคนาโน

(Manose RM-0039)

(Application : Active HG loaded nanovesicles for hair growth stimulation/

สารสำคัญในผลิตภัณฑ์เครื่องสำอางป้องกันผมร่วงและกระตุ้นการงอกของเส้นผม)

1. Name of the raw material : Active HG Loaded Nanovesicles for Hair Growth Stimulation
2. Active components : Extracts of Thai medicinal plants including Soybean and Sorghum mixed with phospholipid and cholesterol
3. Common and scientific name/ Family of the plant : Soybean (*Glycine max* L.)/ LEGUMINOSAE, and Sorghum (*Sorghum bicolor* (L.) Moench)/ GRAMINEAE
4. Physical appearance : Turbid dark brownish dispersion with specific herbal odor
5. pH : 5
6. Standardization : HPLC fingerprint using linoleic acid as a marker
7. Solubility : Dispersible in water
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 : 5 α -reductase inhibition of 37.64 ± 1.62 % at 1 mg/ml (finasteride and dutasteride = 59.25 ± 1.31 and 59.79 ± 1.12 %, respectively)
10. Animal / human performance test : -

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| 11. Safety | : | - No cytotoxicity on human skin fibroblasts with cell viability of 111.74 ± 1.81 % at 10 mg/ml (sodium lauryl sulfate = 7.51 ± 0.90 % at 1 mg/ml) |
| | | - No skin irritation in human volunteers by the 4h closed patch test |
| 12. Pharmaceutical, food supplement or cosmetic applications | : | Anti-hair loss and hair growth promotion cosmetic products |
| 13. Recommended concentrations in the product | : | 5-10 % w/w in serum or lotion base |
| 14. Storage | : | Keep in dry and cool place, protected from light |
| 15. Precautions | : | For external use only / avoid getting into eyes / rinse off and stop using if there is any undesirable effect |
| 16. Cost per kg | : | Please request |

References

1. Amali P., Shruthi B., Kingsley S. J. and Ignacimuthu S. (2014) Enhancing the *in vitro* development of root hairs for the production of sorgoleone in sorghum. **European Journal of Experimental Biology**. 4(4):183-189
2. Jeon H-Y., Kim S-H., Kim C-W., Shin H-J., Seo D-B. and Lee S-J. (2011) Hair growth promoting effect of black soybean extract *in vitro* and *in vivo*. **Korean Journal of Food Science and Technology**. 43(6): 747-753