

Specification : สารแขวนตะกอนสารสกัดฝักคูณเก็บกักในอนุภาคนาโน /
Golden Shower Pod Extract Loaded Nanoparticulate Dispersion
(Manose RM-0045)

(Application : An active ingredient for anti-wrinkle and whitening cosmetic products / สารสำคัญในผลิตภัณฑ์เครื่องสำอางต้านริ้วรอยและช่วยให้ผิวขาว)

1. Name of the raw material : Golden Shower Pod Extract Loaded Nanoparticulate Dispersion
2. Active components : Oleic acid, GMS (glycerol monostearate), Tween 80 and Golden Shower pod extract
3. Common and scientific name/ Family of the plant : Golden Shower (*Cassia fistula* L.)/ LEGUMINOSAE-CAESALPINOIDEAE
4. Physical appearance : Light yellow turbid viscous liquid with specific herbal odor and the particle size of 237.30 ± 22.08 nm.
5. pH : 6.03
6. Standardization : HPLC fingerprint using gallic acid as a marker
7. Solubility : Soluble in ethanol and methanol
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-oxidative activity by DPPH radical scavenging with the SC_{50} of 0.01 ± 0.00 mg/ml (SC_{50} of ascorbic acid = 0.02 ± 0.00 mg/ml)
 - Anti-oxidative activity by lipid peroxidation inhibition with the IPC_{50} of 0.74 ± 0.01 mg/ml (IPC_{50} of ascorbic acid = 0.07 ± 0.01 mg/ml)

-
10. **Animal / human performance test** : - MMP-2 inhibition activity of $82.76 \pm 4.76\%$ at 1 mg/ml (ascorbic acid = $31.54 \pm 3.75\%$ at 0.1 mg/ml)
- The product containing 15% w/w of Golden Shower pod extract loaded nanoparticular dispersion exhibited whitening effect in human volunteers by melanin synthesis reduction after 4 weeks of application.
- The product containing 15% w/w of Golden Shower pod extract loaded nanoparticular dispersion exhibited anti-wrinkle effect in human volunteers with the significant wrinkle reduction after 2 weeks of application.
11. **Safety** : The product containing 15% w/w of Golden Shower pod extract loaded nanoparticular dispersion exhibited no irritation on skin of human volunteers by the 4h closed patch test
12. **Pharmaceutical, food supplement or cosmetic applications** : Anti-wrinkle and whitening cosmetic products
13. **Recommended concentrations in the product** : 10 -20 % w/w
14. **Storage** : Keep in tight and light protection container at room temperature
15. **Precautions** : None
16. **Cost per kg** : Please request

References

1. Bahorun T, Neergheen VS, Aruoma OI. (2005) Phytochemical constituents of *Cassia fistula*. **African Journal of Biotechnology**. 4(13): 1530-1540
2. Neelam C, Ranjan B, Komal S, Nootan C. (2011) Reviews on *Cassia fistula*. **International Journal of Research in Ayurveda & Pharmacy**. 2(2): 426-430