

Specification : White Kwao Krua extract / สารสกัดกวาวเครือขาว
(Manose RM-0004)

(Application : An active ingredient for anti-wrinkle / anti-aging / whitening cosmetic products and female hormone replacement food supplements for menopause women / สารสำคัญในผลิตภัณฑ์เครื่องสำอางต้านริ้วรอย ชะลอวัย ช่วยให้ผิวขาวและผลิตภัณฑ์เสริมอาหารทดแทนฮอร์โมนเพศหญิงสำหรับสตรีวัยทอง)

1. Name of the raw material : White Kwao Krua extract / 1.0 and 0.5 % w/v
White Kwao Krua extract in propylene glycol
2. Active components : Flavonoids, miroestrol, phytoestrogen, puerarin, genistein and daidzein
3. Common and scientific name/ Family of the plant : White Kwao Krua (*Pueraria mirifica* (Airy Shaw & Suvat.))/ LEGUMINOSAE- PAPILIONOIDEAE
4. Physical appearance : Brownish solid with specific herbal odor / Light yellowish liquid with specific light herbal odor
5. pH : 3 (for the solid extract) and 4.59 (for 1.0 and 0.5 % w/v of the extract in propylene glycol)

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6. **Standardization** : HPLC fingerprint using puerarin as a marker⁽¹⁾ / retention times at 5.41, 5.38 and 4.56 mins with the active compound contents of puerarin, genistein and daidzein at 2.08, 4.50 and 42.83 µg per mg of the extract (retention times of the standard puerarin = 5.37 mins, genistein = 5.37 mins and daidzein = 4.49 mins)
7. **Solubility** : Slightly soluble in hot water, ethanol, methanol, propylene glycol and mineral oil (100 to 1,000 parts of the solvent for 1 part of the extract); very slightly soluble in cold water and glycerin (1,000 to 10,000 parts of the solvent for 1 part of the extract).
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

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9. Biological activities : - Antioxidative activity by DPPH radical scavenging with the SC_{50} value of 2.68 ± 0.15 mg/ml (ascorbic acid = 0.03 ± 0.01 mg/ml)
- Tyrosinase inhibition activity with the IC_{50} value of 2.27 ± 0.53 mg/ml (kojic acid = 0.03 ± 0.01 mg/ml)
- Estrogenic activities
10. Animal / human performance test : Hormone replacement in menopause women⁽²⁾
11. Safety : No skin irritation in human volunteers
12. Pharmaceutical, food supplement or cosmetic applications : Anti-wrinkle/ anti-aging and whitening cosmetic products/ female hormone replacement food supplements for menopause women
13. Recommended concentrations in the product : 0.5 - 10 % w/w (1.0 and 0.5 % w/v of the extract in propylene glycol) for topical products / 0.2 - 0.5 mg of the extract per 1 serving for food supplements

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14. Storage : Keep in tight and light protection container at room temperature
15. Precautions : Do not use in children under 12 years old and pregnant women
16. Cost per kg : Please request

References

1. Ingham JL, Tahara S, Pope GS. (2002) Chemical components and pharmacology of the rejuvenating plant *Pueraria mirifica*. In: Keung WM, ed. *Pueraria: The genus Pueraria*. London: Taylor & Francis, 97–118
2. Muangman V, Cherdshewasart W. (2001) Clinical trial of the phytoestrogen - rich herb, *Pueraria mirifica* as a crude drug in the treatment of symptoms in menopausal women. *Siriraj Medical Journal*. 53(5): 300–310