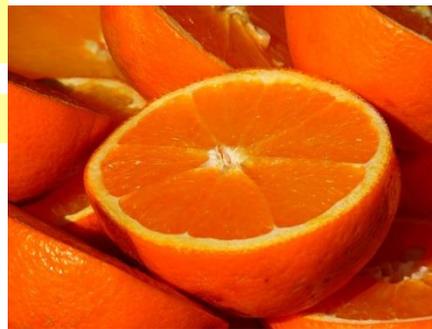


CHINPI EXTRACT PM-F

Orange whitening extract which contains PMF abundantly



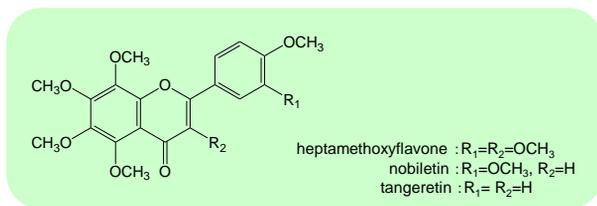
1 Characteristic of product

- **PMFs (polymethoxyflavones) are flavonoid specified of *Citrus* fruits. It is a general term of the compound which more methoxy groups combined with the flavone frame.**
- **Inhibition of Melanin Production**
CHINPI EXTRACT PM-F exhibits strong effect of melanin production inhibition under low concentration. because PMF maintains acidification in the melanosomes. It is suggested that tyrosinase protein decreases.
- **CHINPI EXTRACT PM-F inhibits expression of COX-2 and generation of PGE₂ (inflammatory factor) induce by UV radiation.**
- **Active ingredients are specified.**
CHINPI EXTRACT PM-F contains about 1% three types of polymethoxyflavones (PMF), heptamethoxyflavone, nobiletin and tangeretin as skin-whitening ingredients.
- **Under the clinical study based on applicational guideline of Korean functionality cosmetics (skin-whitening), we confirmed skin-whitening effect by CHINPI EXTRACT PM-F 1% blending cream.**



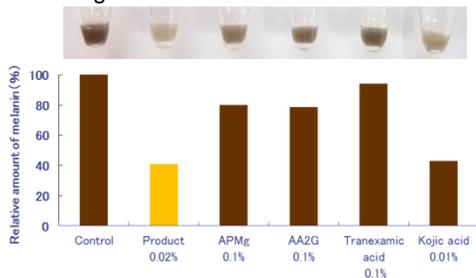
2 Information

INCI name	Content (%)
BUTYLENE GLYCOL	78.8
WATER	19.7
CITRUS AURANTIUM DULCIS (ORANGE) PEEL EXTRACT	1.5

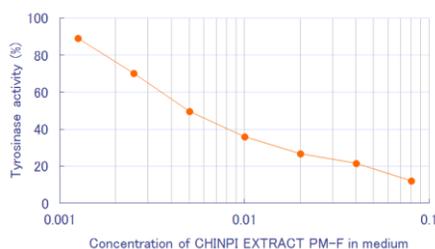


3 Function of product

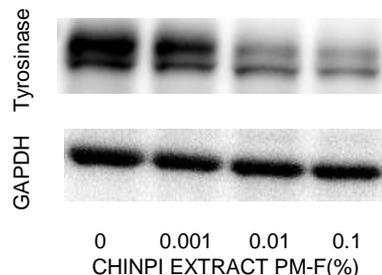
1) Melanin production inhibition test using cultured human melanoma cells



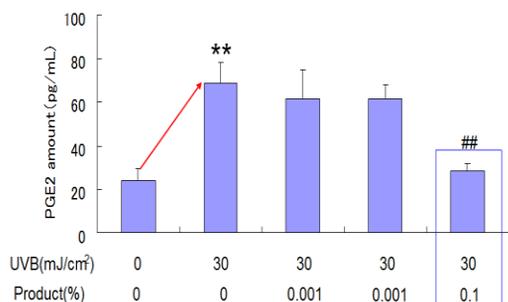
2) Tyrosinase activity in cultured human melanoma cells



3) Tyrosinase protein (western blotting)



4) Decrease of PGE₂ production induced by UV



5) Skin-whitening clinical study [Photos of testing spots]

