SHEKWASHA EXTRACT BG™

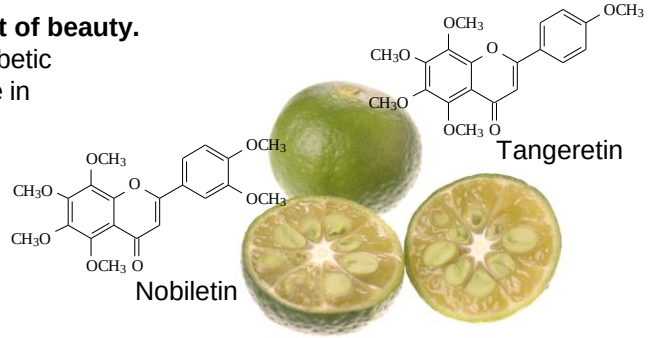
NOF CORPORATION
Oleo & Speciality Chemicals Div.

Citrus depressa peel extract for beautiful skin

- SHEKWASHA EXTRACT BG is obtained by extracting with 1,3-butylene glycol solution from the peel of *Citrus depressa* Hayata (shekwasha).
  The fruit of shekwasha abundantly contains nutritional elements such as vitamin C, vitamin B1, and citric acid, etc. Moreover, the peel contains polymethoxyflavonoids (PMFs) such as nobiletin and tangeretin with various pharmacologic effects promoted health.

1 Product Features

- **Polymethoxyflavonoids (PMFs) demonstrate the effect of beauty.**
  PMFs are effective against the lifestyle disease of the diabetic and high blood pressure etc. Moreover PMFs are effective in skin whitening and suppression of production of matrix metalloproteinases (MMP-1, MMP-9) and UV-induced inflammation factor (PGE_2).
- **Use of raw material from specific area of production**
  Only shekwasha in Okinawa is used.
  The fresh shekwasha in the contract farm is used.



2 Information / Composition / Specification

COMPOSITION

INCI Name	CAS No.	Content
CITRUS DEPRESSA PEEL EXTRACT	1007871-77-3	1.4%
BUTHYLENE GLYCOL	107-88-0	59.2%
WATER	7732-18-5	39.4%

SAFETY DATA

Acute oral toxicity,Primary skin irritation,Ocular irritation, Skin sensitization, Phototoxicity, Photosensitization, Cumulative application, Reverse mutation (Ames test), Human patch

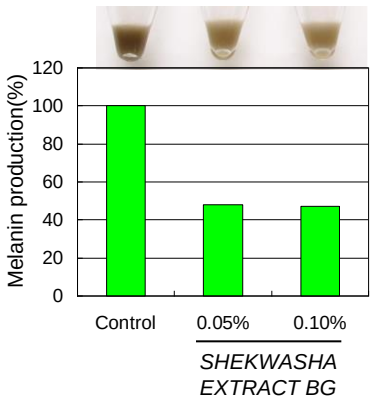
SPECIFICATION

Item	Specification
Appearance	Light yellow to yellow-brown liquid
Odor	Faint characteristic odor
Identification (Flavonoids)	Positive
pH	4.0 – 7.0
Purity (1) Heavy metals	Max. 20 ppm
Purity (2)Arsenic	Max. 2 ppm
Residue on Evaporation	0.8 – 2.0 %
Residue on Ignition	Max. 0.3 %

3 Experimental Data

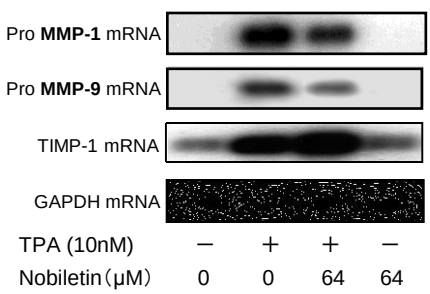
1)Suppression of melanin production

Culture assay using human melanoma cells



2)Supression of MMPs production

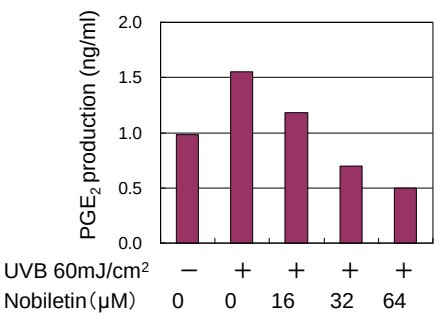
Northern blot analysis using human fibrosarcoma HT-1080 cells



Cancer Res., 62 (2002) pp1025 Sato, T. et al.

3)Prevention of UV-induced inflammation

Culture assay using human keratinocytes



Biochem. Pharmacol., 68 (2004) pp433, Tanaka, S. et al.

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