



chromabright®

PFB Vanish and chromabright®:
Ingrown hair relief, skin
brightening & photoaging
prevention in only 2 months



Description: A new patented ingredient designed for skin brightening applications that shows neither cytotoxic effects, nor any irritation or sensitisation reaction.

Appearance: Powder.

INCI: Dimethylmethoxy Chromanyl Palmitate.

Properties: chromabright® is a new active for safe skin brightening. It induces a significant lightening effect on the skin, at the same time that fights against photoaging.

Applications: chromabright® can be incorporated in cosmetic formulations such as emulsions, oily sera, and in general in any formulation containing oil or silicon phases where a brightening effect on the skin is desired.

Science: The color of our skin is determined mainly by the amount, distribution and type of melanin, a pigment produced by melanocyte cells in a process called melanogenesis. Melanin synthesis takes place in melanosomes, which contain specific enzymes controlling the production of the pigments. The first step of melanogenesis is mediated by tyrosinase, a key enzyme that catalyses the first two reactions of melanin synthesis. Abnormal accumulation of melanin is responsible for hyperpigmentations, which could be a serious aesthetic problem. chromabright® is a new brightening active which acts by inhibiting tyrosinase activity. It fulfills all the desirable qualities for a new skin brightener: exhibits a considerable lightening in vivo effect on the skin, has a completely safe profile, shows good stability in formulations and possesses a photoprotective effect on human epidermal keratinocytes, helping to prevent the skin damage caused by UV radiation.

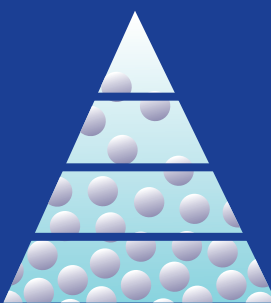
Dosage: 0.1-0.5%

8 weeks

6 weeks

4 weeks

2 weeks



www.PFBVanish.com

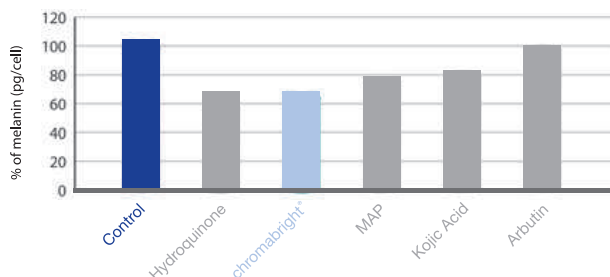
In vitro efficacy

1. TYROSINASE INHIBITION

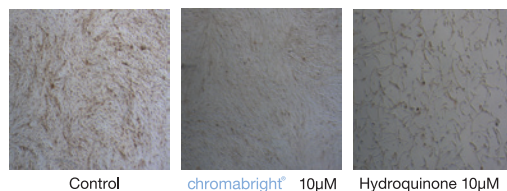
Digestion of L-Dopa in the presence of the test items and measure of absorbance variations at 475nm (wavelength of melanin absorption) is a validated assay for measuring the potential inhibitory activity of the compounds on the tyrosinase activity.

2. MELANOGENESIS INHIBITION ON HUMAN EPIDERMAL MELANOCYTES

Primary human melanocytes (HEMn-DP) cell cultures were used to compare the melanogenesis inhibition efficacy of Hydroquinone, Arbutin, Magnesium Ascorbyl Phosphate (MAP) and Kojic Acid respect to **chromabright®** at the same concentration (10µM). After 20 days of culture, melanin concentration was determined and values were normalised respect to the number of cells per well.

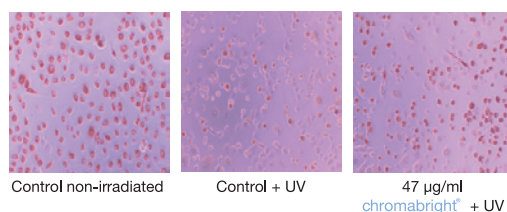


Melanogenesis inhibition and cytotoxic effect of **chromabright®** (10µM, 200µM) and Hydroquinone (10µM) were observed by optical microscopy.



3. CELLULAR PHOTOPROTECTION

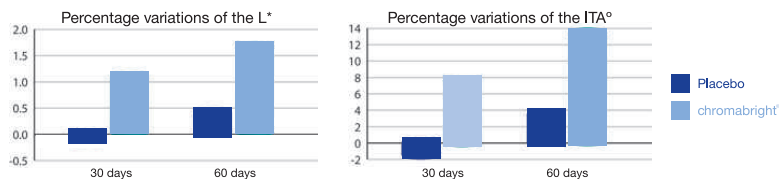
Test based on the determination of the protective effect of **chromabright®** when tested in the presence of a cytotoxic dose of simulated solar light.



In vivo efficacy

1. BRIGHTENING EFFECT

A group of 20 Asian female volunteers, aged 18 to 46, applied a cream containing 0.1% **chromabright®** on one side of the face twice daily and a placebo cream on the other side for 60 days. The brightening effect was instrumentally evaluated by means of a Chromameter CR-300 and the parameters used were: L* (Luminance) and ITA° (Individual Typological Angle).



2. DEPIGMENTING EFFECT

A dermatological evaluation was performed in 10 volunteers, aged 18 to 70, with melasma and/or actinic lentigines. A cream containing 0.5% **chromabright®** was applied on their face and/or hands twice a day for 60 days.

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- 37% inhibition of mushroom tyrosinase activity and 43% of human tyrosinase activity

- **chromabright®** exhibits a better depigmenting effect than MAP, Kojic Acid and Arbutin, and similar to Hydroquinone

- **chromabright®** does not affect melanocyte growth, while Hydroquinone cytotoxicity was clearly observed

- 190% increase in cell viability

- **chromabright®** helps to prevent the skin-damaging effects of UV radiation.

- A cream containing 0.1% **chromabright®** induced a significant brightening effect after 30 and 60 days

- 80% of the volunteers with melasma and 77.8% with lentigines experienced a significant improvement after 60 days.

- PFB Vanish + Chromabright is not recommended for melasma or lentigines due to the exfoliating properties and may cause dryness or flaking of the skin.