

melavoid™

Global lightening effect



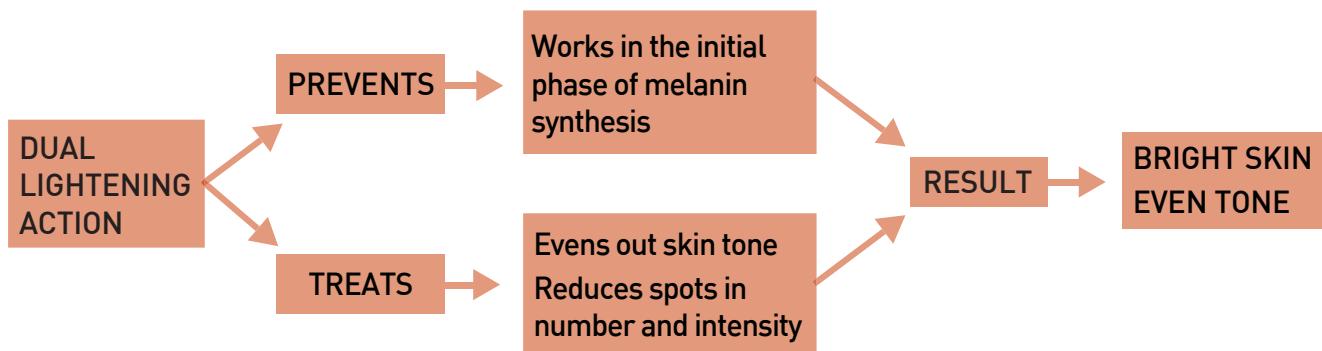
To show a bright and even skin tone is one of the major cosmetic concerns of consumers.

- In some countries, fair skin is perceived as more attractive.
- Spots and irregular pigmentation give an aged appearance, which does not correspond with reality.

melavoid™, lightening active ingredient, works on the initial mechanisms of pigmentation, decreasing skin tone and spots

How does melavoid™ work?

melavoid™, through its binding to PPAR γ , acts on previous phases of the melanin metabolism:

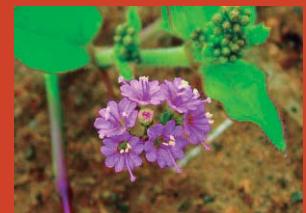


Regulates melanogenesis by gene modulation of melanocytes:



melavoid™ is obtained from the roots of punarnava (Boerhaavia diffusa), standardized in boeravinones.

An in silico screening demonstrated that boeravinone B, a component of Boerhaavia diffusa, is the suitable active to act as a natural agonist of PPAR γ .



TESTED ON ASIAN SKIN
WORKS BOTH IN DEEP AND SUPERFICIAL SPOTS



In vitro efficacy

● Depigmenting activity

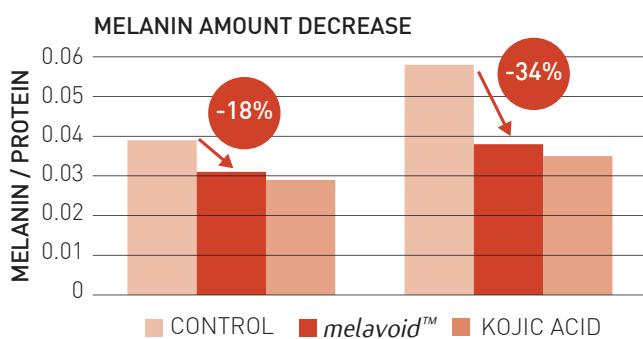
The activity of *melavoid™* on human melanocytes NHEM (Normal Human Epidermal Melanocytes) was assessed and demonstrated:

- **-63%** of tyrosinase expression.
- **-55%** of tyrosinase activity.

At the same time, it was observed that *melavoid™* maintains melanocytes viability (unlike kojic acid) by reducing their number of dendrites, thus preventing an accumulation of pigment in the epidermis.

melavoid™ decreases by 34% the amount of melanin without affecting melanocytes viability

In the same culture, melanin synthesis reduction was specifically evaluated:



In vivo efficacy

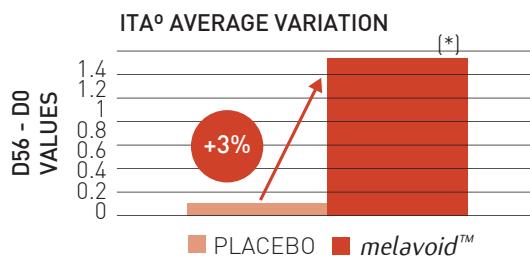
Tests performed in a panel of 20 Asian female volunteers. 3% *melavoid™* on one side of the face, and placebo on the other. 56 days of twice daily application. Two areas: normal skin and spots.

● Evaluation of normal skin without spots

An increase of ITA⁰ parameter means a decrease of skin pigmentation intensity.

melavoid™ produces a maximum ITA⁰ increment up to **28%**, diminishing skin pigmentation intensity

(*) *melavoid™* statistically significant respect to D0.



● Evaluation of spotted skin

In the hyperpigmented area, the ITA⁰ parameter is increased by **5%** on average. This difference about the value of ITA⁰ in the spotted skin results in an homogeneous and uniform tone.

melavoid™ is an intelligent depigmentant; its activity is higher in areas with spots and thus evens skin color

The maximum reduction obtained by *melavoid™* in the different types of pigmentary spots is:

- **-19%** in superficial spots.
- **-15%** in UV spots.
- **-28%** in brown spots.



Untreated skin D0 measurement:
82 superficial spots

Treated with *melavoid™* D56 measurement: 51 superficial spots ►►►