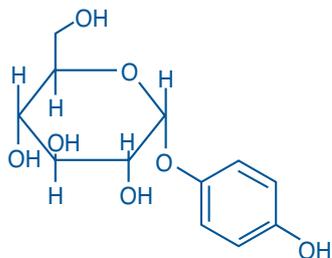




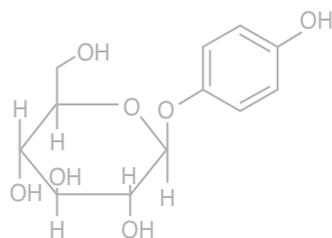
ALPHA-ARBUTIN

THE MOST EFFECTIVE, FAST AND SAFE SKIN BRIGHTENER

ALPHA-ARBUTIN is a pure, water-soluble biosynthetic active ingredient. Structurally, ALPHA-ARBUTIN (IUPAC name: 4-hydroxyphenyl- α -D-glucopyranoside) is an α -glucoside. The α -glucosidic bond offers higher stability and efficacy than the β -form in the related beta-arbutin.

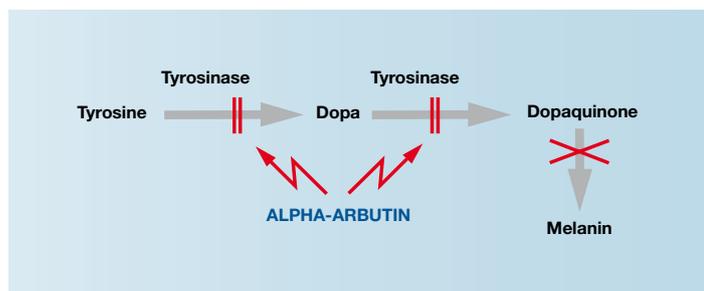


ALPHA-ARBUTIN



Beta-Arbutin

Properties



ALPHA-ARBUTIN blocks epidermal melanin biosynthesis by inhibiting enzymatic oxidation of Tyrosine and Dopa. ALPHA-ARBUTIN acts faster and more efficient than existing single components.

Function

- Promotes brightening and an even skin tone on all skin types
- Minimizes the appearance of liver spots
- Can reduce the degree of skin tanning after UV exposure

Cosmetic application

- All degrees of skin brightening

Formulations

ALPHA-ARBUTIN is a water-soluble, crystalline, white to off-white powder which is easily incorporated into the water phase of cosmetic formulations. ALPHA-ARBUTIN is stable against hydrolysis as tested in the pH range from 3.5 to 6.5.

Suggested concentration

Up to 2% ALPHA-ARBUTIN

INCI name

ALPHA-ARBUTIN

EFFICACY TESTS

In vitro

ALPHA-ARBUTIN exhibits impressive *in vitro* tyrosinase inhibition on human cell lysate ($IC_{50} = 1.0$ mMol) compared to Beta-Arbutin ($IC_{50} = 9.0$ mMol).

In vivo

A skin-lightening study on 80 Chinese descent women demonstrated that an emulsion containing 1% ALPHA-ARBUTIN resulted in a faster and more pronounced skin-lightening effect after 1 month when compared with other commonly used single components at 1% use levels.

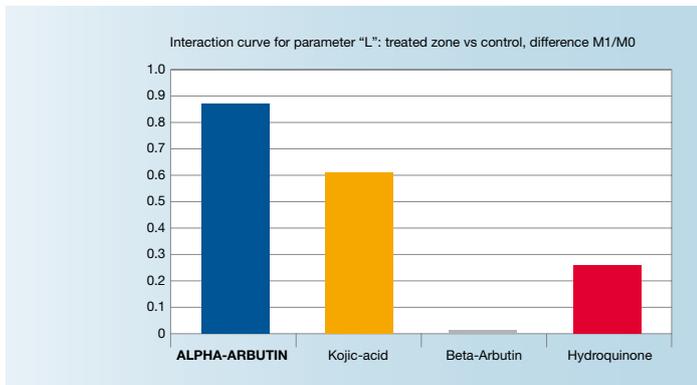


Figure 1: The classification of lightening single components according to the magnitude of their specific effect after 1 month (MO = start, M1 = after one month)

In vivo

ALPHA-ARBUTIN (2%) in a creme formulation shows improvement of the appearance of liver spots after 3 months.

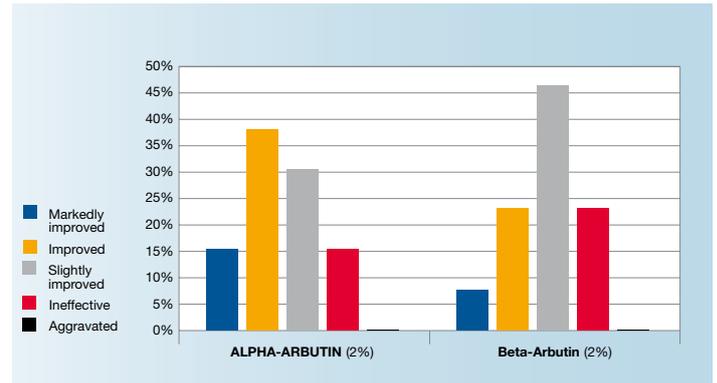


Figure 2: Satisfaction quotients relating to the evaluation of the liver spot reduction.

In vivo study for the reduction of skin tanning after exposure to UV rays.

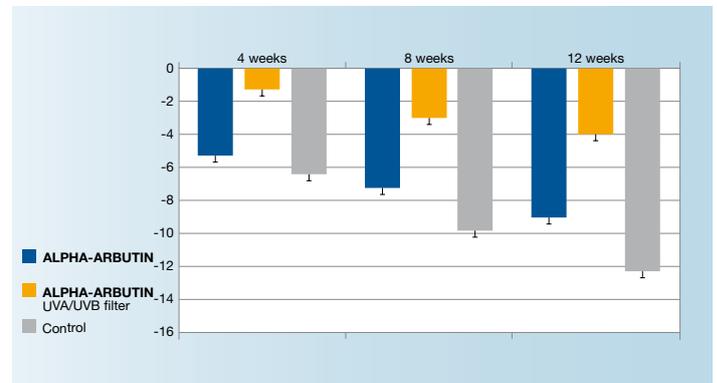


Figure 3: In a randomized, double-blind, 3-month, *in vivo* study, ALPHA-ARBUTIN (1%) combined with UVA/UVB filter produced a significantly higher skin-brightening effect than ALPHA-ARBUTIN alone.

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