Fucowhite™

Whitening the skin

MARINE GLYCOBIOLOGY EXPERTISE

organic COSMOS *certified*

LESSONIA

cosmetics + ingredients

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Fucowhite is a clinically validated skin whitening ingredient which significantly decreases skin pigmentation.

Fucowhite is a unique purified fucoidan-phloroglucinol complex, extracted from the brown algae Ascophyllum nodosum by lixiviation in water.

This unique complex of fucoidan with powerful antioxidant polyphenol, makes it an effective and versatile ingredient for whitening application.

Ascophyllum nodosum:

a system to regulate its pigmentation

Ascophyllum nodosum is a brown algae particularly present on the North-Western coasts of Europe. Ascophyllum is very popular amongst the scientific community. It has been claimed to be the most active seaweed on the planet as well as the most researched by the academic community.

Exposed to UV rays on a daily basis, Ascophyllum nodosum has developed a system that regulates its pigmentation. That has inspired LESSONIA in the development of FUCOWHITE to regulate the pigmentation of the skin.

THE UNIQUE COMPOSITION OF Fucowhite™

Fucoidans have diverse bioactivity. They also inhibit UVB-induced MMP expression and are good inhibitors of the dermal remodeling enzymes called matrix metalloproteases. Polyphloroglucinols are the polyphenols found in brown macroalgae. They are powerful antioxydants, inhibiting a variety of free radicals. In Ascophyllum nodosum, the association fucoidan and phloroglucinols plays an important role in the protection from high UV conditions, especially in the intertidal zone.

Fucowhite is not just an association of fucoidans with phloroglucinols. These 2 compounds are linked together to form a complex with a strong tyrosinase inhibition activity.

IN VITRO TESTS

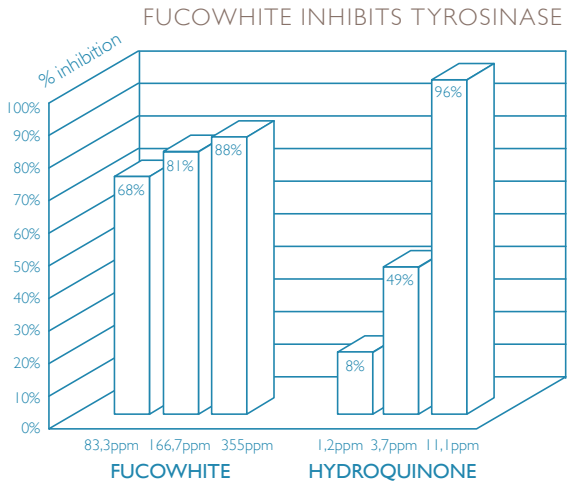
FucoWhite™ mechanism of action

The skin's pigmentation results from the presence of melanin in the epidermis. This pigment is synthesized in vesicles known as melanosomes of specialized cells, melanocytes. The melanin pigments is produced using tyrosine, an essential amino acid that is submitted to a series of reactions, linked to tyrosinase, as the key enzyme in this biosynthesis, to form melanin.

By **inhibiting the tyrosinase activity by 88%** at very low concentration, Fucowhite is an excellent whitening ingredient.

PROTOCOL

The enzyme tyrosinase was incubated with its substrate tyrosine. The product of this reaction (melanin) was analyzed by measuring the optical density at 480 nm.



RESULTS

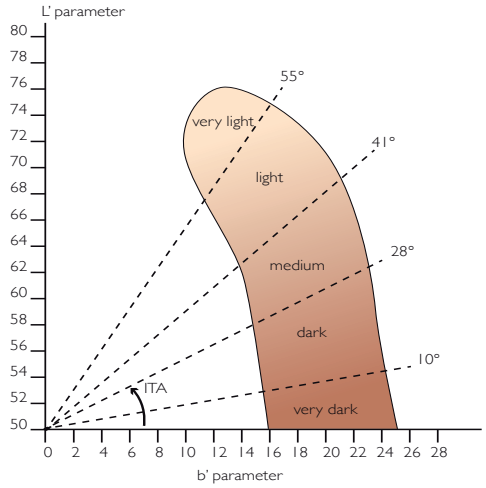
The tyrosinase inhibition of Fucowhite is similar to the activity of hydroquinone, benchmark tested in the same conditions, without causing any skin irritation.

CLINICAL TESTS

Lightening efficacy on Asian skin type

PROTOCOL

- Test realized in Thailand on 24 volunteers.
- Twice a day application of 2% Fucowhite against placebo for 28 days.
- Evaluation of the skin pigmentation (chromametric analysis)



The color of the skin is measured by a chromameter. This appliance makes it possible to define a luminance parameter: L, clarity, from dark to pale and a chrominance ; factor: b* the spectrum from blues to yellows. These parameters have been studied in order to measure the individual typological angle, which defines the degree of pigmentation of an individual's skin.*

RESULTS

FUCOWHITE SIGNIFICANTLY INCREASES THE SKIN CLARITY AND DECREASES THE SKIN PIGMENTATION.

After using 2% Fucowhite twice a day for 28 days:

- **88 % of volunteers** from active group observed an **increase of skin clarity** (L* parameter)
- **63 % of volunteers** from active group observed a **decrease of skin pigmentation** (ITA* parameter); + 3.7 % on average and up to + 36.3% increase in the ITA.

Statistical analysis highlights a significant better effect using the "active cream" on L* parameter and ITA* compared with placebo. It induces a lightening effect characterized by a significant increase in L* and ITA* parameters.

Perfect skin tolerance.

Cosmetic activity

- Whitening ranges for face and body
- Lightening care products
- Anti-age spots creams and serums.
- Protective formulations

Technical data

- INCI name : Glycerin & water & Ascophyllum nodosum extract
- Appearance: brownish liquid
- Solubility : water soluble
- Recommended rate of use: 2.0 %
- Preservative free

Marketing benefits

- A marine skin whitening active ingredient
- Clinical efficacy on Asian skin after only 28 days
- Both antioxidant and whitening benefits
- Preservative-free
- Organic certify

ECO CERT
COSMOS CERTIFIED

Certified as 25% organic by Ecocert Greenlife according to COSMOS standard available at http://COSMOS.ecocert.com

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