

## ASCOWHITE

The whitening solution from Ascophyllum



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

ASCOWHITE 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.

### What is *Ascophyllum nodosum*?



It 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.

## The unique composition of ASCOWHITE

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 antioxidants, 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.

Ascowhite 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 test – ASCOWHITE, 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.

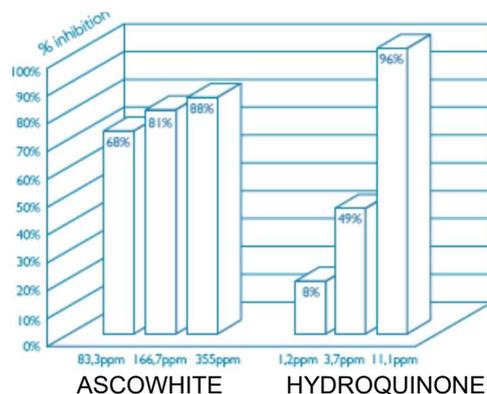
The melanin pigments is produced using tyrosine, an essential amino acid that is submitted to a series of reactions, linked to tyrosinase, as the key enzyme in this biosynthesis, to form melanin.

By inhibiting the tyrosinase activity by 88% at very low concentration, ASCOWHITE 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.

## ASCOWHITE INHIBITS TYROSINASE



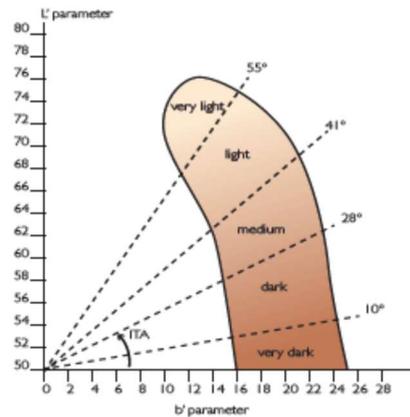
## Results

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

## Clinical test – Lightening efficacy on Asian skin type

### Protocol

- Test realized in Thailand on 24 volunteers.
- Application twice a day of 2% ASCOWHITE 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

#### **ASCOWHITE significantly increases the skin clarity and decreases the skin pigmentation**

After using 2% ASCOWHITE 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 usage level: 2.0 %
- ✓ Preservative free



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