



## **ACTISEANE®**

A unique combination  
of natural algal growth substances

\*

*Reinforces skin metabolism*

*Keeps vitality to mature skin*



Like all organs, the skin is affected by the aging process. Skin changes become visible over the years. They are due to a combination of several factors occurring during intrinsic aging which is largely genetically determined and extrinsic aging caused by environmental exposure.

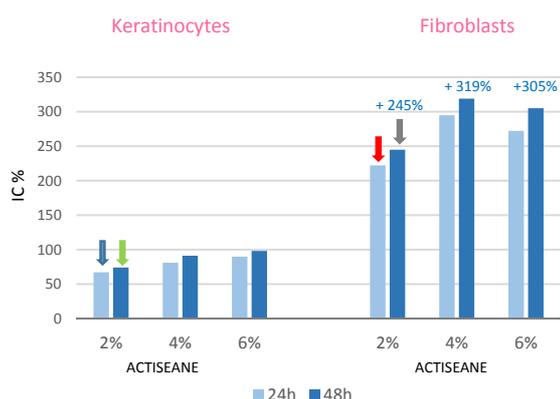
In order to fight skin aging, GELYMA proposes ACTISEANE® that can help counter several factors that contribute to skin aging e.g. slower cellular turnover in the epidermis and dermis, deterioration of the dermal fibres and prevention of dryness.

ACTISEANE® is a patented active based on the synergistic properties of two aqueous extracts prepared from the brown seaweeds *Ascophyllum nodosum* and *Halopteris scoparia*, both rich in plant growth substances (phytohormones) e.g. auxins, gibberellins, cytokins, abscisic acid and betaines. These phytohormones are not similar to phytoestrogens because flavonoids (e.g. genistein) lack in seaweeds.

Patent FR 2 837 386

## Mechanisms of action

### ACTISEANE® stimulates the proliferation of skin cells



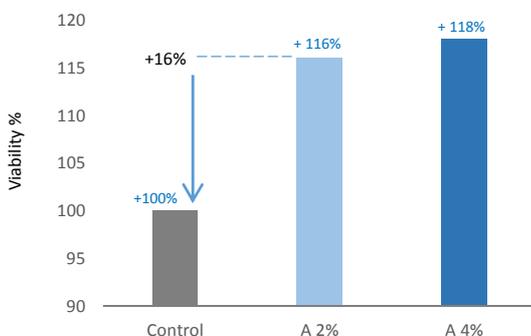
Evaluation of the growth index (IC %) after 24h and 48h cultivation of keratinocytes and fibroblasts in the presence of 2% - 4% and 6% active.

With 2% active, the proliferation capacity reaches

- ♦ after 24h cultivation
  - + 67 % for keratinocytes ↓
  - + 222 % for fibroblasts ↓
- ♦ after 48h cultivation
  - + 74 % for keratinocytes ↓
  - + 245 % for fibroblast ↓

ACTISEANE® stimulates cellular growth of the skin, thus ACTISEANE® helps to epidermal restructuration and dermal structure reinforcement.

### ACTISEANE® stimulates the mitochondrial activity of reconstituted skins

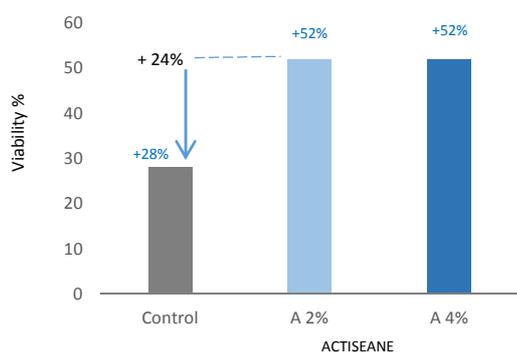


Evaluation of mitochondrial activity of reconstituted skins after 48h cultivation in the presence or absence of active.

With 2% active, the stimulation reaches + 16% compared to control (\*\* $p < 0.001$ ).

ACTISEANE® stimulates skin cell metabolism.

### ACTISEANE® protects against UVB radiation



UVB radiation is highly damaging to DNA and epidermal keratinocytes.

Reconstituted skins submitted to UVB irradiation (dose 300 mJ/cm<sup>2</sup>) for 5 hours in the presence or absence of active. MTT performed 48h after irradiation.

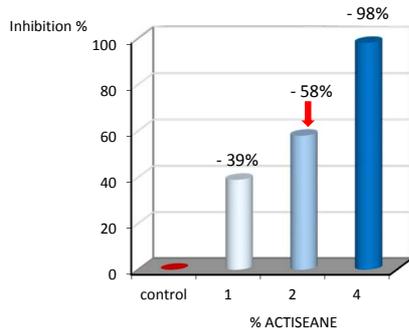
With 2% active, the viability increases by + 24% compared to control (\*\* $p < 0.001$ ).

ACTISEANE® induces a very highly significant protection against UVB, known to induce the formation of sun burn cells and accelerate premature aging.

## ACTISEANE protects the dermal matrix from deterioration

Dosages of the activities of hyaluronidase, elastase and collagenase.

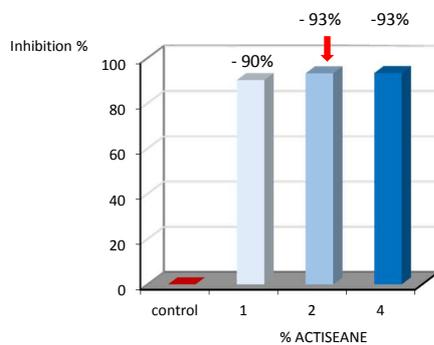
### ► Inhibition of hyaluronidase



With 2% active the inhibition of hyaluronidase reaches -58% ↓

ACTISEANE® inhibits the hyaluronidase activity with a dose dependent effect, thus ACTISEANE® preserves moisture balance in the epidermis.

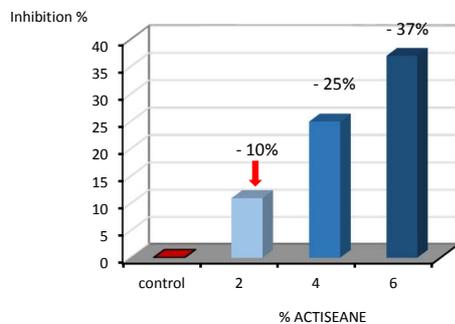
### ► Inhibition of elastase



With 2% active the inhibition of elastase reaches -93% ↓

ACTISEANE® inhibits the elastase activity with a dose dependent effect, thus ACTISEANE® prevents the degradation of elastin, a major connective tissue protein and consequently the loss of skin firmness.

### ► Inhibition of collagenase



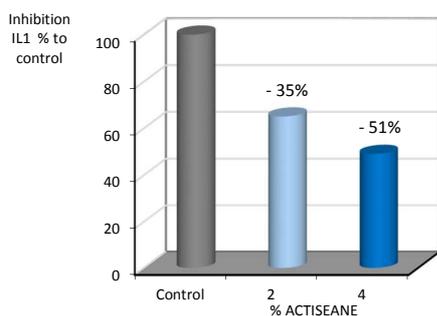
With 2% active the inhibition of collagenase reaches -10% ↓

ACTISEANE® inhibits collagenase activity with a dose dependent effect.

ACTISEANE® inhibits the release of proteases that leads to the breakdown of connective tissue.

## ACTISEANE regulates cytokine balance

Evaluation of the activities of IL6 on human keratinocytes submitted to UVB irradiation (dose 20mJ/cm<sup>2</sup>) and of IL1 α on reconstituted skins submitted to UVB irradiation (dose 300 mJ/cm<sup>2</sup>).



### Stimulation of IL6

The stimulation reaches about +9% with 2% active and +32% with 4% active.

By activating IL6, ACTISEANE® improves skin repair and keratinization.

### Inhibition of IL 1α

The inhibition reaches -35% with 2% active and -51% with 4% active.

By inhibiting IL1α, ACTISEANE® limits inflammation.

ACTISEANE® regulates the cytokine balance, thus ACTISEANE® reinforces skin metabolism and repair.

## ACTISEANE®

A unique combination of natural algal growth substances

### Algal source

ACTISEANE® is a patented marine agent based on the synergistic association of two aqueous and calibrated extracts prepared selectively from *Ascophyllum nodosum* and *Halopteris scoparia*, both brown seaweeds being rich in polyphenols and plant growth substances (e.g. auxins, gibberellins, cytokinins, abscissic acid).

Patent FR 2 837 386



## Cosmetic benefits

Thanks to its unique composition in marine plant growth substances, ACTISEANE® targets against both intrinsic aging and extrinsic aging due to UVB induced damage.

ACTISEANE® boosts the skin metabolism.

ACTISEANE® inhibits elastase, the enzyme which breaks down elastin in the skin.

ACTISEANE® inhibits hyaluronidase activity that helps reduce skin dryness.

At least ACTISEANE® modulates the cytokine balance thus strengthens skin wound healing and soothes inflammation.

As results, the skin appears fortified and replenished.

## Cosmetic applications

All anti-aging products for overstretched, tired or mature skins characterized by decreased thickness, dryness and photo-aging signs caused by UV irradiation - Face and neck care - Repairing and restructuring skin care.

Recommended use levels: 1% - 4%.

## Characteristics

INCI names	water	CAS n° 7732-18-5	EINECS n° 231-791-2
	<i>Ascophyllum nodosum</i> extract	CAS n° 84775-78-0	EINECS n° 283-907-6
	<i>Halopteris scoparia</i> extract		

Limpid liquid amber colored.

Preservatives by selection: microcare SB or phenoxyethanol or phenoxyethanol + chlorphenesin.

Packing size: 1kg - 5 kg -10 kg.



The data presented in this document are offered solely for your consideration and investigation. No guaranty is expressed or implied. No responsibility or liability for any consequence arising from the use of these data can be accepted, including possible infringement of any patent.

**GELYMA**

Parc d'Affaires Marseille Sud (C4) - 1 Boulevard de l'Océan - 13009 Marseille - France  
Phone: +33 4 96 14 09 82 - Fax: +33 4 96 14 09 83 - E-mail: gelyma@wanadoo.fr