ACTISEANE®

A unique combination of natural algal growth substances

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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, abscissic acid and betaines. These phytohormones are not similar to phytoestrogens because flavonoids (e.g. genistein) lack in seaweeds.

**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 ml/cm²) 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.
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® protects the dermal matrix from deterioration

ACTISEANE® regulates cytokine balance

Evaluation of the activities of IL6 on human keratinocytes submitted to UVB irradiation (dose 20mJ/cm²) and of IL1α on reconstituted skins submitted to UVB irradiation (dose 300 ml/cm²).

- **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 IL1α**

  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**

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<th>INCI names</th>
<th>water</th>
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Limpid liquid amber colored.

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

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

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