

Care
Creations™

Osmogeline™

The skin equalizer™

Beauty Creations
The Passion for Beauty

 **BASF**

The Chemical Company

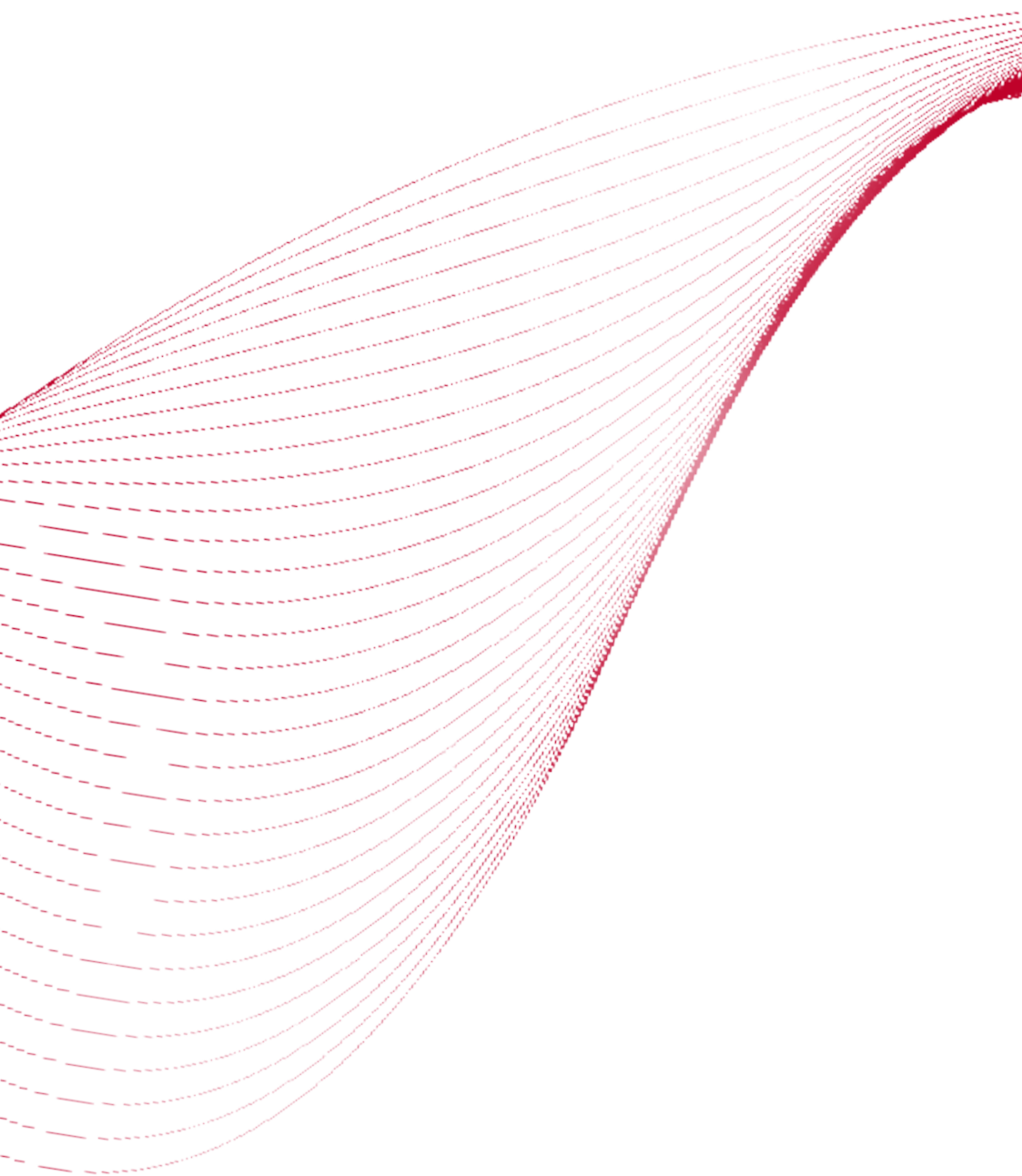
Natural or Effective?

A paradox emerges in the cosmetic world between scientific concepts that tend to be highly sophisticated and a quest for simplicity, moderation and frugality.

How is this market going to evolve?

Between high-technology and naturally-sourced products, a new trend is emerging, that combines natural and advanced science for optimal performance. These parallel pursuits lead many brands to seek an ideal standard of natural sourcing and efficacy.

These findings led our scientists to develop a cosmetic ingredient that is natural, simple and delivers proven efficacy: Osmogeline™.



Osmogeline™, a red algae extract that helps to revitalize stressed skin within 3 days*.

Environmental stresses create an imbalance in the overall metabolism of the skin, giving it a dull, uneven, and aged appearance.

To act effectively and quickly against imbalances from various stresses, we targeted 3 levels simultaneously *in vitro*:

- Fighting against redness and uneven skin tone,
- Stimulating and protecting the barrier to give a smooth and soft appearance to the skin,
- Protecting the dermal matrix.

To achieve this goal, Beauty Creations has developed Osmogeline™, red algae extract collected in the ocean waters of Canada, Chile and Mexico. This seaweed is harvested by hand to ensure both a premium selection of the species and the preservation of the ecosystem. Each batch is then selected according to a detailed specification to ensure proven effectiveness.

We have demonstrated the effectiveness of its triple protection *in vitro*. In addition to its performance on cultured cells, Osmogeline™ is a gel that gives a particularly soft touch to finished formulations. Finally, an innovative and unique consumer science test involving assessment by both panelists and their partners shows that Osmogeline™ improves the skin surface within 3 days. The skin appears smoother, softer and better hydrated. It is balanced and it shows.

In addition Osmogeline™ is a gel that gives a particularly soft touch to finished formulations.

* Based on a one-week consumer study performed on 98 panelists and their partners

Properties

Revitalizes stressed skin

Moisturizes and smooths the cutaneous surface within 3 days

Origin

Red seaweed harvested by hand in the ocean waters of Canada, Chile and Mexico

Skincare

Revitalizing booster concentrate

Moisturizing and smoothing gel

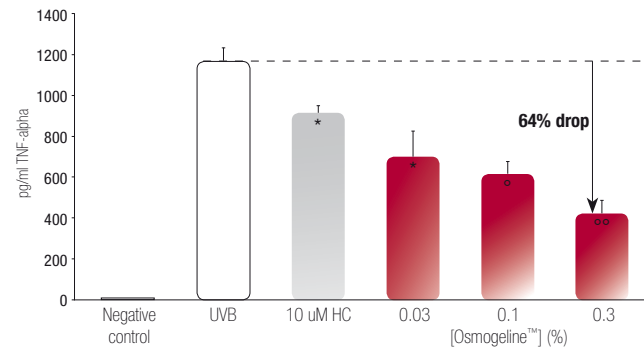
Daily protection lotion

Our *in vitro* research has demonstrated a multi-level ability for Osmogeline™ to balance the skin. By reducing the overproduction of TNF- α , inflammation is reduced and redness and uneven skin tone can be controlled. Additional *in vitro* studies demonstrate the prevention of cellular lipid oxidation and the stimulation of skin barrier protein to improve the skin's appearance. Finally, a comprehensive gene expression survey establishes an ability to regulate metalloproteinases MMP1 and MMP3 which can degrade the dermal architecture.

Reduces the inflammation response by 64% after 24 hours

Osmogeline™ works by reducing the secretion of UV-induced TNF- α . At 0.1% or higher, this dose-responsive effect is significantly better than of Hydrocortisone (HC). The unbalancing effect of UV is controlled and the secretion of TNF- α is regulated.

Osmogeline™ reduces UVB-mediated TNF-alpha secretion by NHEK



* significantly different from the negative control, n=3; p<0.05
° significantly different from the HC control, N=3; p<0.05
°° significantly different from the HC control, N=3; p<0.01

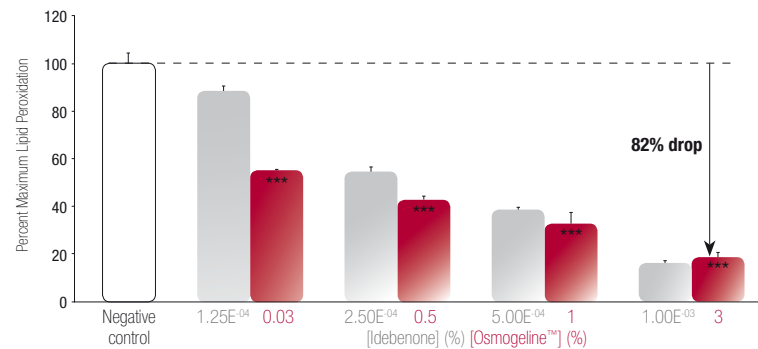
In vitro Study

Tested on Normal Human Epithelial Keratinocytes (NHEK). Cell cultures were exposed to UVB irradiation (35mjoules/cm²). After 24 hours, the production of TNF- α was measured by ELISA assay. Treatment by Osmogeline™ or HC positive control.

Prevents cellular lipid oxidation by 82% after 4hours

Osmogeline™ prevents cellular lipoperoxidation in a dose-dependent manner. Between 0.03% and 1%, this dose effect is significantly better than Idebenone. At 3%, Osmogeline™ is capable of maximal inhibition of the TBA assay to the same degree as Idebenone, a synthetic compound used as a positive control. The lipid content of the stratum corneum is protected.

Osmogeline™ prevents UVB-mediated Lipid Peroxidation



*** significantly different than negative control, n=3 p<0.001

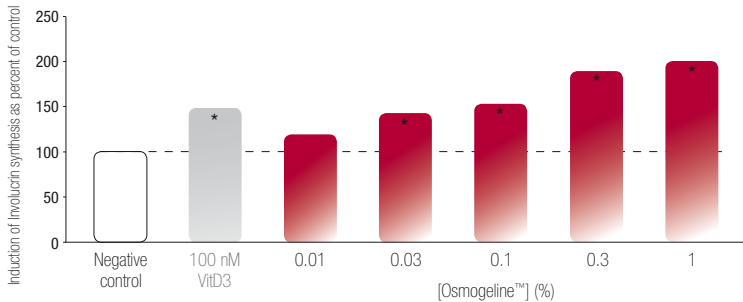
In tubo Study

Suspension of liposomes.
UVB irradiation for 4 hours + treatment by Osmogeline™ or Idebenone (positive control).
Measurement of lipid peroxidation by thiobarbaturic acid (TBA) test.
Distinct concentration ranges were necessary to generate dose-response curves in this assay.

Stimulates production of Involucrin, a skin barrier protein

Osmogeline™ acts in a dose-dependent manner to induce involucrin synthesis in our *in vitro* assay. This effect is greater than that of Vitamin D3 starting at 0.1% concentration. At 1.0%, involucrin is induced by 2-fold. This may result in a strengthened skin barrier.

Osmogeline™ stimulates Involucrin in NHEK



* Significantly different from the negative control, n=3; p<0.05

in vitro Study

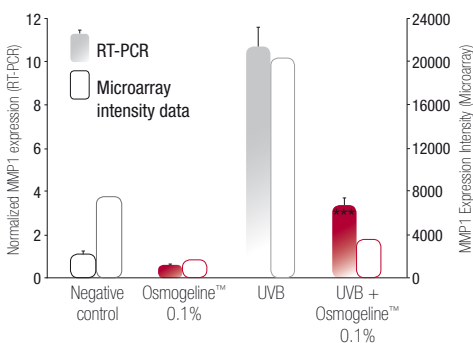
Tested on Normal Human Epithelial Keratinocytes (NHEK).

Treatment by Osmogeline™ or Vitamin D3 (positive control). After 6 days, quantification of involucrin protein by Western Blot.

Protects the dermal matrix

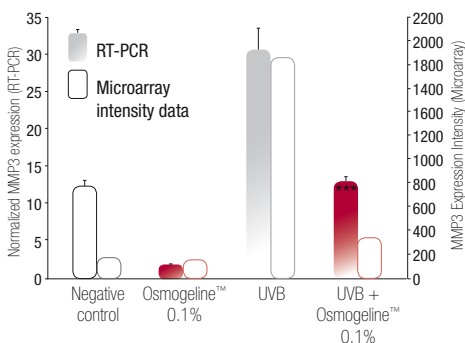
When tested on a 41,000-feature Whole Genome microarray, Osmogeline demonstrated its ability to reverse the effect of UV exposure at the gene expression level. Two counter-regulated genes detected in this assay include MMP1 and MMP3, enzymes implicated in the degradation of the dermal matrix, which leads to wrinkles and sagging. By limiting the activation of these genes after radiation exposure, a youthful appearance to the skin can be maintained.

Osmogeline™ Counter-regulates MMP1 in NHEK exposed to UVB



*** significantly different from the UVB alone, n=3; p<0.001

Osmogeline™ Counter-regulates MMP3 in NHEK exposed to UVB



*** significantly different from the UVB alone, n=3; p<0.001

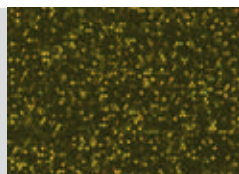
in vitro Studies

Tested on Normal Human Epithelial Keratinocytes (NHEK)

After UVB exposure (25mJ/cm²), keratinocytes (NHEK) were treated by Osmogeline™ at 0.1% for 24hrs. Cellular RNA was then extracted and analyzed comprehensively by microarray for all gene expression changes. RT-PCR was then used to confirm the regulation of select genes. Two genes or «hits» presented here were strongly induced by UV radiation and counter-regulated by Osmogeline™ at 0.1%.

DNA Microarray Technology: Comprehensive gene expression analysis

This powerful assay detects changes in the expression level of all known genes described to date, simultaneously. This allows the discovery of unknown and unpredicted benefits associated with various cosmetic treatments. Used as a presumptive test to generate a set of candidate genes or «hits», these hits are then confirmed using Real Time Polymerase Chain Reaction (RT-PCR), a highly sensitive and quantitative assay that measures the messenger RNA.

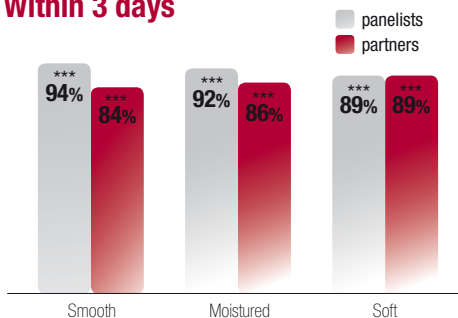




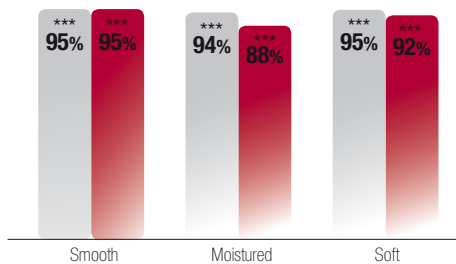
Skin that feels better and it shows!

98 panelists and their partners were selected to test the benefit of OSMOGELINE. After 3 days of twice-daily use, panelists' skin was smoother, more moisturized, and softer. Their partners also reported the improvements. Within a week, the effect was even more noticeable.

Within 3 days



Within 1 week



*** Highly significant ($p < 0.001$)

Consumer science test

Tested on 98 subjects.

Evaluation was based on perception of the skin by the panelist and her partner.

The tested product (Emulsion O/W, 10% Osmogeline™) was applied twice daily to the face, neck and décolleté.

Evaluation at 3 days and one week.

A controlled and sustainable source

Algae, champions of adaptation, are able to withstand many environmental stresses such as UV, dehydration or osmotic shock. OSMOGELINE™ is a premium and controlled extract from the red algae *Chondrus crispus*, harvested in the oceans of Canada, Chile, and Mexico. This rhodophyte is hand-picked for an optimum selection of raw material. Before the extraction, the seaweed is sun-dried; it is not dried in fuel-fired dryers. This seaweed is a renewable resource, and each harvest is carefully managed to preserve both the resource and the environment in which it grows.



Summary file

REF
R10979

DESCRIPTION
Red algae extract

REGULATORY DATA
INCI Water, Algae Extract, Citric acid, Phenoxxyethanol, Potassium Sorbate.
Japanese Cosmetic Denomination Mizu (1370), Aruge Ekisu (522027), Penchiren Gurikoru (532168), Kuen San (001215), Fenokishietanoru (100125), pending.
CAS# 7732-18-5, 92128-82-0, 77-92-9, 122-99-6, 24634-61-5.
EINECS# 231-791-2, 295-780-4, 201-069-1, 204-589-7, 246-376-1.

PRELIMINARY SPECIFICATIONS
Dry weight (15 hours, 105°C) 3.0 – 3.6%

Total inorganic Matter Content (15 hours, 600°C) 0 – 1%
Lipoperoxidation index >55%
Viscosity (RVT, Spindle 4, 5 RPM) 20,000 – 26,000 cPs
Appearance Viscous Liquid (May contain naturally occurring particles <5µm in size. Aggregation may be detected.)
Color Straw to light brown
Odor Characteristic
pH (Direct) 6.00 – 7.50
Total Aerobic Bacteria Count < 100 cfu/g
Total Yeast & Mold Count < 100 cfu/g

FORMULATION DATA
Concentration of use
1 to 10%

Incorporation method
Add at the end of the formulation at 30 C.

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