



Care
Creations™

Purisoft™

The new anti-pollution,
purifying active for skin

Beauty Creations
The Passion for Beauty

 **BASF**
The Chemical Company

The new anti-pollution, purifying active for skin

Purisoft™: peptide from Moringa seeds

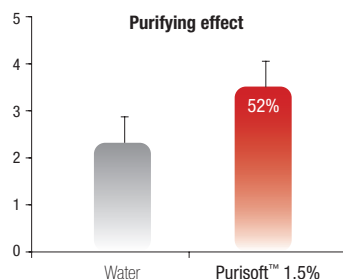
- **Protects skin against pollution**
- **Purifies the skin**



Skin treated with water



Skin treated with Purisoft™



Purifying effect of Purisoft™ demonstrated by videomicroscopy - Clinical study

Skin and environmental stress

In our modern world, our lives are becoming increasingly hectic. The lifestyle of active women, especially of those living in urban areas, may lead to unexpected skin problems induced by **stress** and **pollution**.

Pollutants attack the skin:

Sulfur dioxide, nitrogen dioxide and gases such as carbon oxide attack skin cells and generate free radicals: they are cytotoxic.

Micro-particles cover the skin with an invisible film, that dulls and poisons it. These micro-particles come from degradation of hydrocarbons, combustion of oil and fuel, as well as from home and industrial dust.

Day after day, our skin is exposed to these attacks. The consequences are a dull, dry, wrinkled skin, with loss of tonicity and firmness.

By acting on the causes of these signs, it becomes possible to keep skin in an optimal physiological state, with a radiant complexion and a pleasant touch.

Therefore, Purisoft™ has been developed, in order to offer, **as a dual active ingredient**, the essential elements **to fight against pollution effects** and **to purify the skin**.

Definition / Composition

Purisoft™ is a peptide obtained by extraction of the seeds of *Moringa oleifera* (= *pterygosperma*) in an aqueous / glycerin solution.

Moringa oleifera is an exotic tree that reaches 5 meters high, also called in Africa Nebeday (from «never die», the tree that never dies), horse-radish tree or drumstick tree, because of its long pods. *Moringa oleifera*, native to India, grows in tropical and sub-tropical areas, especially in Africa and Asia. It produces white flowers, that give fruits looking like long pods (20 to 50 cm long) containing 7 to 20 spherical seeds, with small wings.



Fig. 1 - *Moringa oleifera* tree

Moringa is widely used in these areas for its nutritive (pods) and medicinal (leaves and flowers) properties. Its seeds yield an oil, also called «Behen oil» which was used by ancient civilizations to prepare cosmetic, medicinal or religious ointments. The crushed seeds are also known for their very high capacity to purify dirty water, particularly from rivers.

Main components:

Micro-protein consisting of 2 peptides with a mean molecular weight of 6,000 and 13,000 daltons respectively.

INCI name

Purisoft™ LS9726 Water (and) Glycerin (and) *Moringa Pterygosperma* Seed Extract.

Purisoft™ LS9836 *Moringa Pterygosperma* Seed Extract (and) Maltodextrin.

Skin benefits

Purisoft™ has a dual activity, combining:

- the capacity of protecting skin cells against aggressions by pollutants,
- the efficacy in purifying the skin, by facilitating the removal of all micro-particles, coming from the environment that «asphyxiate» the skin.

Originality

Purisoft™ is a natural and native peptide, of exotic origin. It is obtained by mild extraction of *Moringa* seeds, without using any chemical solvent.

Cosmetics use

Day care for all skin types, with **anti-pollution and purity** claims: creams, lotions, make-up, face masks...

Dosage / Solubility / Mode of incorporation

1. Dose of use: 1 to 3%.

2. Solubility: soluble in water, insoluble in oils and fats.

3. Mode of incorporation: Purisoft™ is introduced into the cosmetic product below 60°C during the finishing process, or at room temperature in cold processing.

The efficacy of Purisoft™ is improved when formulated at pH = 5 - 6.

The introduction of a film forming agent such as PVP allows to increase the purifying activity.

Analytical characteristics

1. Aspect: yellow liquid with a characteristic odor.

2. Specifications: upon request.

Tolerance

Good.

Efficacy

Test summaries overleaf.

Storage

In its original packaging, at 15 - 25°C.

Efficacy tests

Cytoprotection against heavy metals (*in vitro*)

Aim

Evaluation of the capacity of Purisoft™ to protect skin cells (MRC5 fibroblasts) against stress due to pollutants. In this test, mercury and cadmium are used as a model of environmental pollution. Skin vitality is evaluated through the measurement of cellular proteins (Bradford's method). Foetal calf serum, well-known for its cell protecting capacities, is used as a reference substance.

Protocol

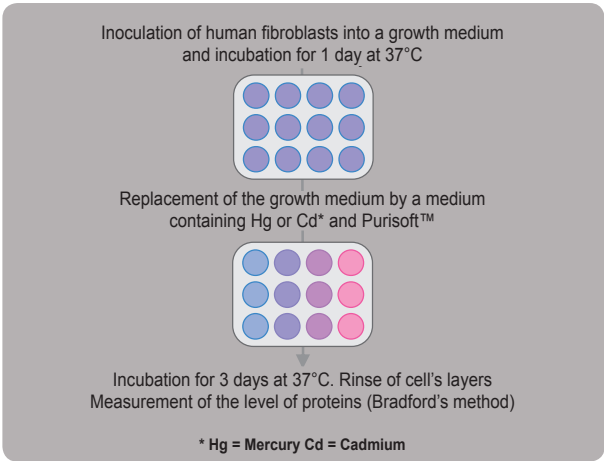


Fig. 2 - Protocol of the cytoprotection test.

Results

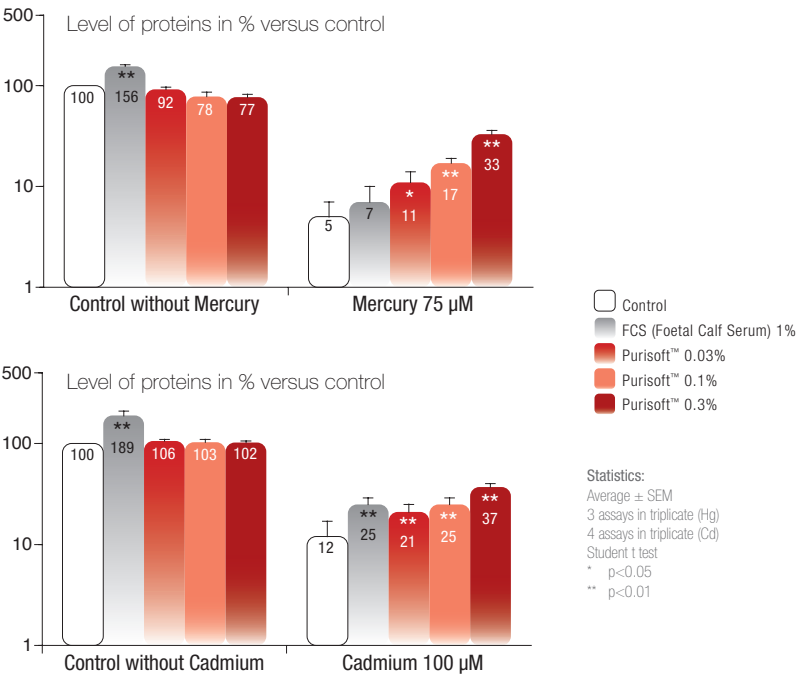


Fig. 3 - Protein dosage - Cells in presence of mercury or cadmium.

Conclusion

Purisoft™ shows good protective properties on cells against pollutants: mercury and cadmium, comparable or even better than Foetal calf serum, used as reference substance.

Skin protection against cigarette smoke (ex vivo)

Aim

Evaluation of the anti-pollution efficacy of a hydrogel containing 3% Purisoft™ on human skin in culture. The pollution stress is induced by incubation of skin cultures in presence of cigarette smoke. The marker used to evaluate the pollution stress intensity is HSP 27.

Protocol

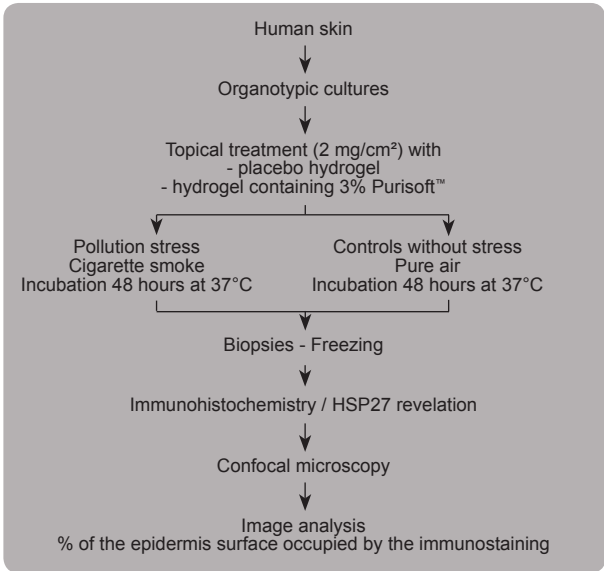


Fig. 4 - Protocol.

Results

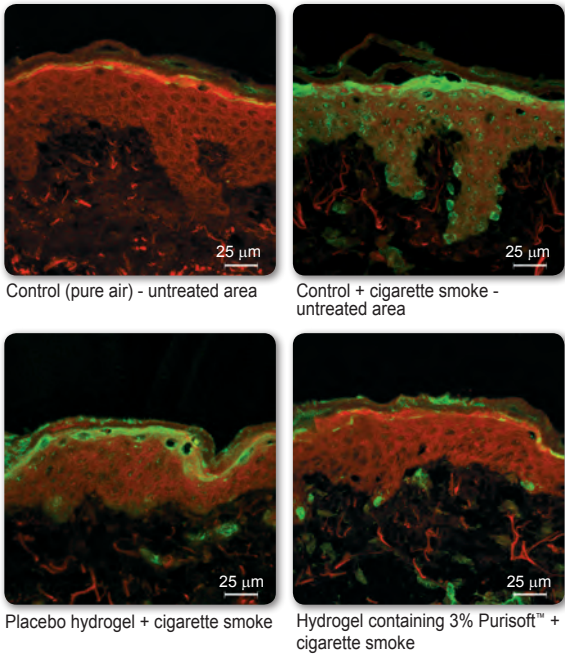


Fig. 5 - Image analysis.

Conclusion

After pollution stress by cigarette smoke, the induction of HSP was strongly increased.

The application of a hydrogel containing 3% Purisoft™ significantly decreased the induction of HSP 27 due to the presence of cigarette smoke.

Purisoft™ has a good anti-pollution stress efficacy.

Skin purification demonstrated by video-microscopy

Clinical study

Aim

To demonstrate the skin purifying property of a lotion containing 1.5% Purisoft™.
Coal is used as a model of micro-particle pollution to soil skin.

Protocol

The test has been carried out on 10 female volunteers.

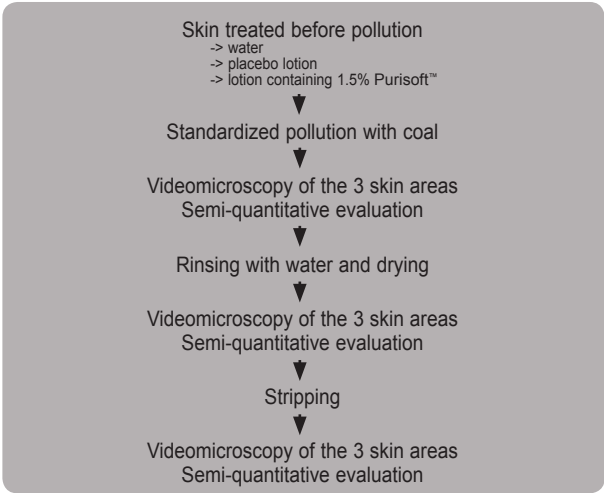


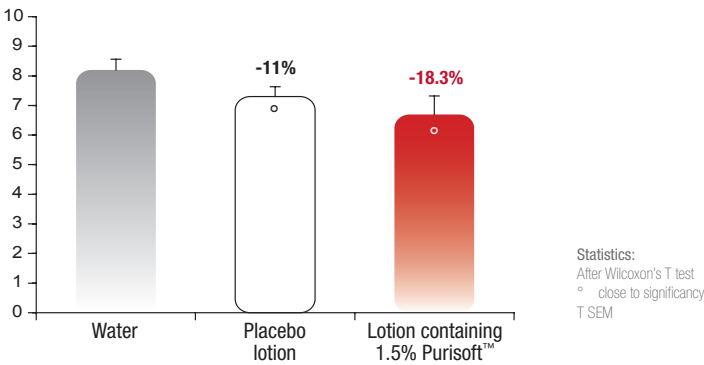
Fig. 6 - Schema of protocol.

The semi-quantitative evaluation is made by 2 experts according to the videomicroscopic images.
The scale used reflects the particle pollution:
0 = none 1 = very light 2 = light 3 = moderated 4 = important 5 = very important.

Results

1. After application of coal / protective effect against pollution

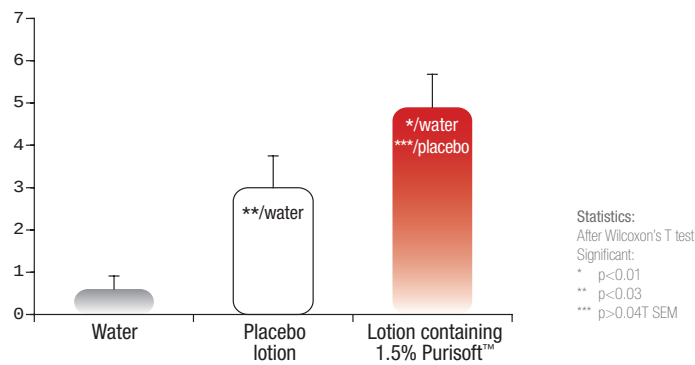
Videomicroscopy visual appreciation
Total of the semi-quantitative quotations



The skin area treated with the lotion containing 1.5% Purisoft™ is more protected against coal particles in comparison to the skin area treated with the placebo lotion.

2. After rinsing with water / superficial purifying effect

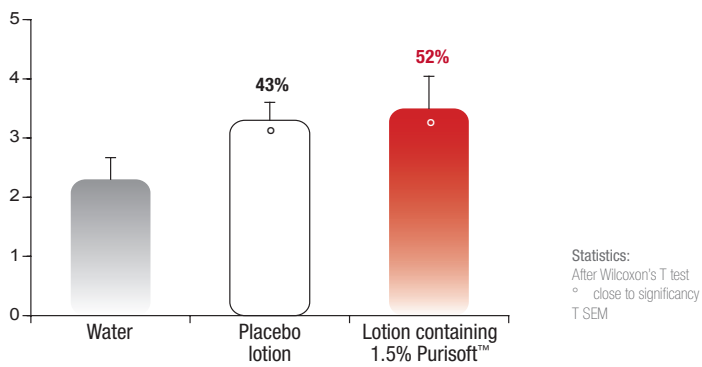
Videomicroscopy visual appreciation
Total of the semi-quantitative quotations



After rinsing with water, the coal particles have significantly decreased on the surface of the skin area treated with the lotion containing 1.5% Purisoft™ in comparison to the placebo lotion.

3. After stripping / deep purifying effect

Videomicroscopy visual appreciation
Total of the semi-quantitative quotations



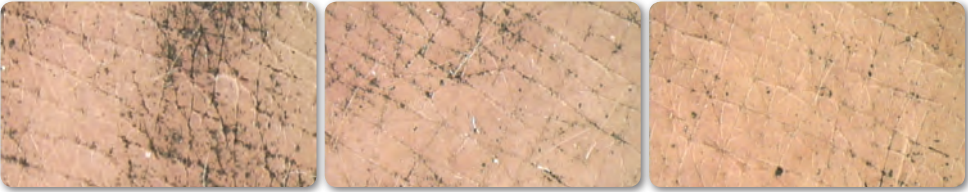
The in depth purifying effect of the lotion containing 1.5% Purisoft™ is significant in comparison to the placebo lotion.

Videomicroscopy of the skin

1. After application of coal / protective effect against pollution



2. After rinsing with water / superficial purifying effect



3. After stripping / deep purifying effect



Conclusion

The results have demonstrated that:
- the application of a lotion containing 1.5% Purisoft™ protects the skin against particle pollution,
- the incorporation of Purisoft™ in a lotion makes skin cleansing easier.
Purisoft™ has a significant purifying effect.

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