

Care
Creations™

PatchH₂O™
by Beauty Creations

Express and Sustained Hydration (effective up to 5 days)

 **BASF**

The Chemical Company

PatchH₂O™

Could moisturization be the secret to a beautiful, bright, luscious and healthy skin?

One out of three treatments on the market features hydration claims, so consumers and marketers confirm this.

However, very few products sufficiently hydrate the skin both instantly and for days to follow.

Because good moisturization is a sustainable source of youth and beauty for the skin, Beauty Creations has developed PatchH₂O™.

The primary objective is to ensure an optimal level of hydration of the *stratum corneum* to maintain flexibility and smoothness of the skin for as long as possible.

PatchH₂O™, immediate and long lasting moisturization

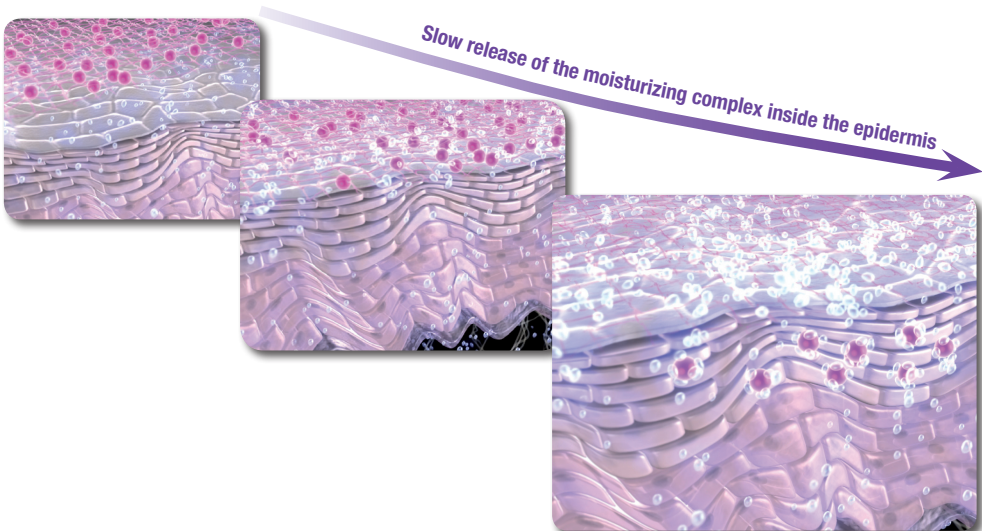
PatchH₂O™ is the newest innovation of Beauty Creations, inspired by its dual expertise in natural macromolecules and the technology of the controlled release of cosmetic active ingredients.

PatchH₂O™ is a molecular network of natural biopolymers with a high concentration of a moisturization complex containing glycerin, serine, trehalose and urea.

PatchH₂O™ offers optimal hydration by acting on **two levels**.

On the surface of the skin, the novel and unique combination of hyaluronic acid, alginate and a natural glucan known as pullulan, forms **a molecular mesh**. This micro-network is loaded with a moisturizing complex, which is gradually released into **the heart of the *stratum corneum***.

The mode of action



Focus on pullulan:

This natural polysaccharide is produced by fermentation of a food-grade starch hydrolyzed with non GMO and non-toxic strains of the *Aureobasidium pullulans* fungus. Composed of glucoside units, it is highly water soluble. The major advantage of pullulan is its ability to form resistant elastic films. Its properties make it an excellent candidate for moisturizing applications in cosmetics.

Pullulan has been sold in Japan for more than 20 years as food additives. It has been also recognized safe as a food ingredient from FDA.

Clinically proven properties

The efficiency of PatchH₂O™ has been clinically proven at 3% *versus* placebo on human skin:

- **Instant relief** - Increases skin hydration after 30 min of application,
- **Sustained protection** - Up to 48 hours of hydration even after just one application,
- **Optimized moisturization capital** - Prolongs skin hydration up to 5 days after application.

Intensively and for a durably hydrated, the skin is regenerated and visibly smoother and nourished.

Applications

Powerful 'anti-thirst' moisturization, for immediate and lasting effect (5 days)
Restores the quality of the skin barrier

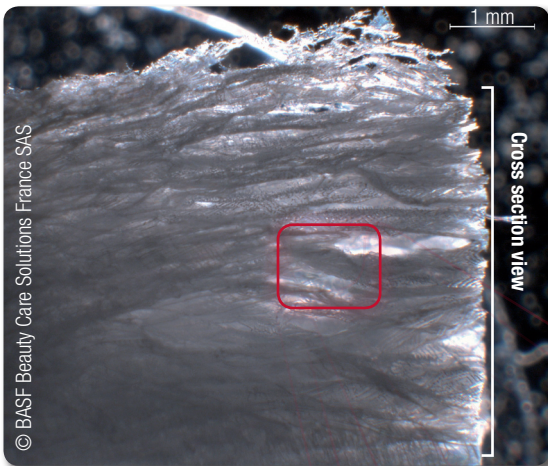
Cosmetic treatments

5-day Hydrating body lotion
Express quenching serum
5-day lasting comfort hydration care
Soothing prevention lotion

PatchH₂O™

3D network visualization of natural biopolymers after PatchH₂O™ lyophilization.

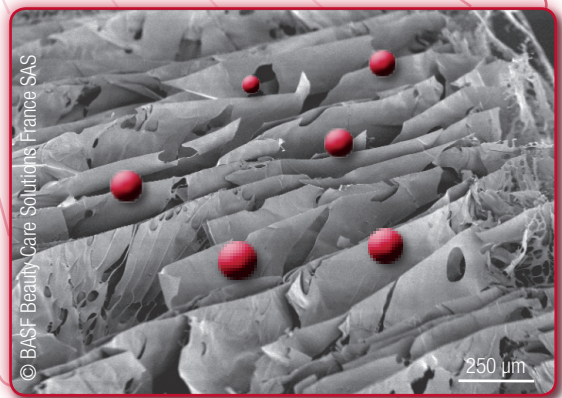
On a macroscopic scale



3 dimensional arrangement of three biopolymers
(hyaluronic acid, alginate, pullulan)

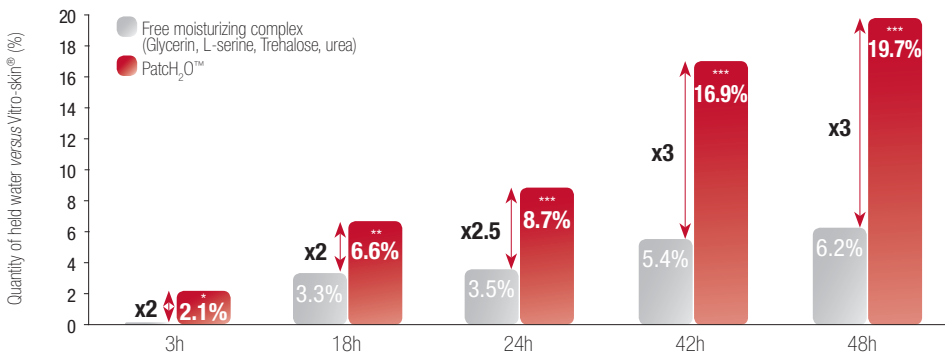
On a microscopic scale

Moisturizing complex
(glycerin, serine, trehalose, urea)
contained in the biopolymeric network's
alveoli



Proof of concept

PatchH₂O™ limits the evaporation of water over 48 hours.



* statistically significant vs moisturizing complex (p <0.05)

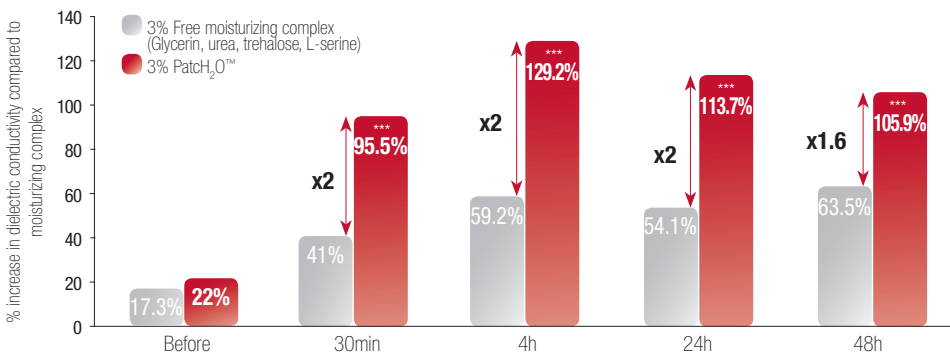
** statistically significant vs moisturizing complex (p <0.01)

*** statistically significant vs moisturizing complex (p <0.001)

In vitro study

Evaluation of the moisturizing complex and PatchH₂O™'s ability to limit the evaporation of water on synthetic skin (Vitroskin®) for 48 hours.

PatchH₂O™ offers intense moisturization after 30 minutes, lasting up to 48 hours.



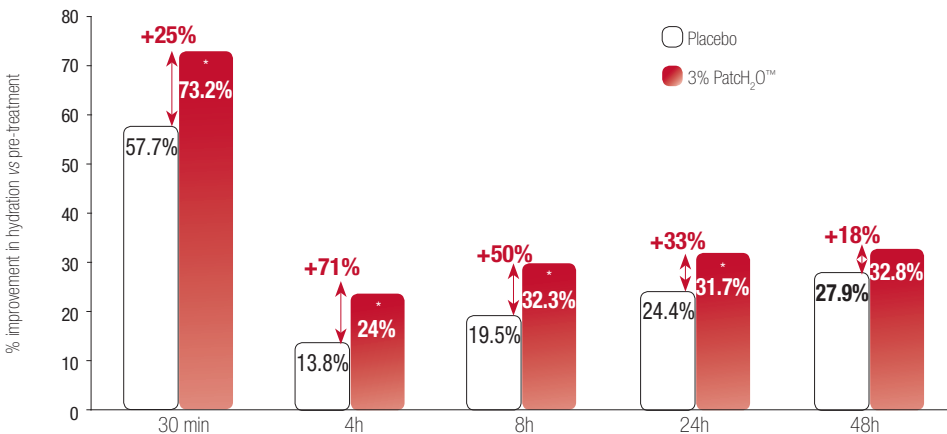
*** statistically significant vs moisturizing complex (p <0.001)

Ex vivo study

Hydrating effect assessed by measurements of dielectric conductivity layer on the human *stratum corneum* after 3 treatments of 1mg / cm² (44% relative humidity).

Clinically proven

Express hydration (30 min) that continues (48 hours) in just one application.

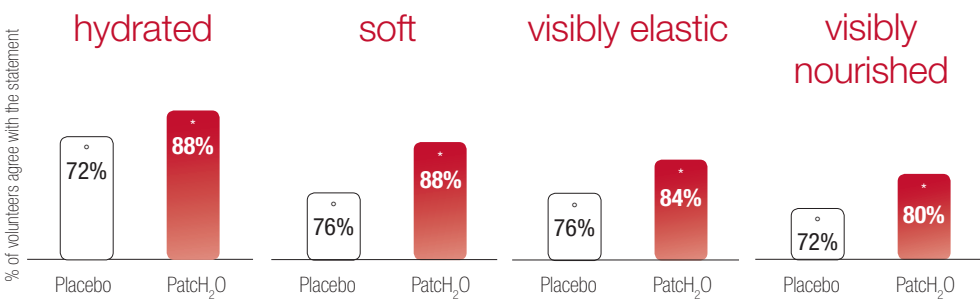


* statistically better vs placebo (p < 0.05)

In vivo study

- Tested on 22 volunteers aged from 18 to 65 years.
- Application of test product on the forearm, single application.
- Tested formulas: placebo cream versus cream with PatchH₂O™ at 3%.
- Measurement of hydration using corneometry at 30 min, 4, 8, 24 and 48 hours after application.

After 21 days, volunteers consider their skin...



* significant percentage with PatchH₂O™ (p < 0.01)

° significant percentage with placebo (p < 0.05)

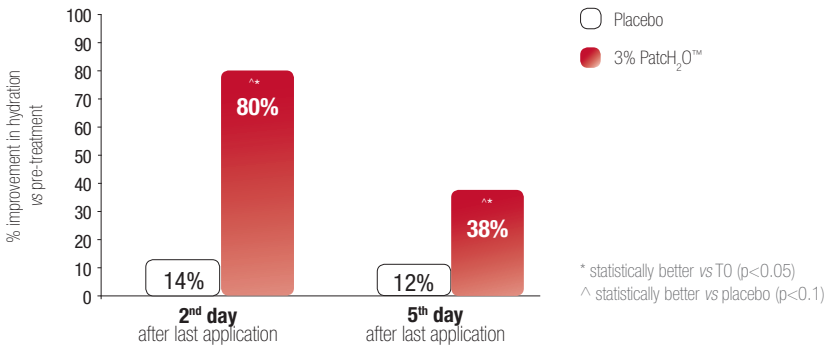
A tangible difference has been perceived by the volunteers between PatchH₂O™ at 3% and the placebo cream.

Consumer test

- Evaluation on 25 women aged 18 to 65 years (perception).
- Applications twice daily of the test product and placebo on half face.
- Duration of treatment: 21 days
- 3 days wash out with soap before testing before testing.
- Items assessed: skin hydrated, nourished, elastic, soft.
- Volunteers express their opinion on the perceived benefits of the tested formula.

effectiveness

Long-lasting results after the last application:
2nd day, 80% of the moisturizing effect
5th day, 38% of the moisturizing effect.



In vivo study

- Tested on 22 volunteers aged from 18 to 65 years.
- Applications twice daily of the test product and placebo on half face.
- Duration of treatment: 21 days
- Tested formulas: placebo cream *versus* cream with PatchH₂O™ at 3%.
- Stopping application on the morning of day 21. No application of any cosmetics for 5 days.
- Measurement of hydration using corneometry 2 days and 5 days after the last application.

Summary

REFERENCE

A00297

DESCRIPTION

Molecular patch based on film-forming natural biopolymers (hyaluronic acid, alginate and pullulan) carrying highly concentrated hydrating substances (trehalose, glycerin, urea and L-serine).

REGULATORY INFORMATION

INCI : Water, Glycerin, Trehalose, Urea, Serine, Pentylene Glycol, Glyceryl Polyacrylate, Algin, Caprylyl Glycol, Sodium Hyaluronate, Pullulan, Disodium Phosphate, Potassium Phosphate.

Japanese Cosmetic Ingredients : Mizu, Guriserin, Toreharohsu, Nyouso, Serin, Penchiren Gurikoru, Poriakurirusan guriseriru, Arugin san Na, Kapuri rirugurikoru, Hiaruronsan Na, Pururan, Rinsan 2 Na, Rinsan K.

CAS# 7732-18-5, 56-81-5, 99-20-7, 57-13-6, 56-45-1, 5343-92-0, 104365-75-5, 9005-38-3, 1117-86-8, 9067-32-7, 9057-02-7, 7558-79-4, 7778-77-0

EINECS# 231-791-2, 200-289-5, 202-739-6, 200-315-5, 200-274-3, 226-285-3, /, 232-680-1, 214-254-7, 232-678-0, 232-945-1, 231-448-7, 231-913-4

Preservatives none

Solvent none

Chinese regulations All the INCI names composing of PatchH₂O™ are listed on the:

- International Cosmetic Ingredient Standard Chinese Name* (2007 version),
- «Inventory of Existing Chemical Substances in China» (2010 version),

PRELIMINARY SPECIFICATIONS

Dry matter content (15 hours, 105°C) 30 -50 %

Total Inorganic Matter Content (15 hours, 600°C) < or = 1%

Appearance Clear to cloudy liquid

Color White to yellow

Odor Characteristic

Total aerobic bacteria (30°C) < or = 100/g

Pathogens : (*S. Aureus*; *E. Coli*; *P.Aeruginosa*; *C. Albicans*; *A.Niger*)
None

FORMULATION DATA

Concentration of use 1 - 3%

Incorporation method

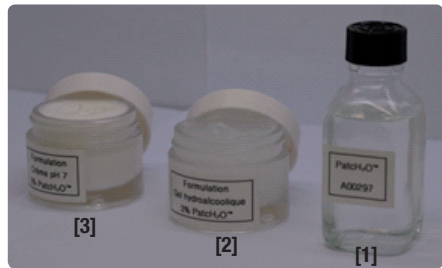
Add at the end of formulation at 30°C with warmed stirring.

Recommended pH of the formula between 4 and 7.

Formula guidance sheet available upon request.

PATENT

Application filed.



Commercial sample of PatchH₂O™ [1], at 3%, respectively incorporated in a hydroalcoholic gel [2] or a cream [3].

Toxicology Data available upon request

Customs code 38249097

Storage Storage Temperature: 10 - 30°C.
Avoid freezing.
Protect from temperatures below 4°C.
Protect temperatures above 35°C.

Shelf life 12 months

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