

Phytocare-HATM

Pure, Cosmetic Grade
Snow Mushroom Extract



Create Possibilities

Pc

Phytocare-HA™

Snow Mushroom Extract

Powerful, Natural Hydration with a Rich Ancient History

PhytoCare-HA™ is the extracted essence of the tremella fuciformis sporocarp mushroom, otherwise known to the Chinese as “Silver Ear” or Snow Mushrooms. It has played a prominent role in Chinese history as a celebrated ingredient in herbal, cosmetic, and culinary applications, believing that it helped reduce age spots and wrinkles on the skin. Yang Gui Fei, Concubine of Tang Dynasty Emperor Hsuan-Tsung, is considered to be the most beautiful woman in China’s storied history. It is said that she ingested Snow mushrooms and used it for both facial and body washes to preserve the storied glow of her alabaster skin.

🍏 100% Pure, Clean and Natural

Approved by Ecocert and COSMOS. Unlike other lower quality snow mushroom extracts, Phytocare contains 100% pure active content without any wood fillers.

🍏 Incredible Moisture Retention

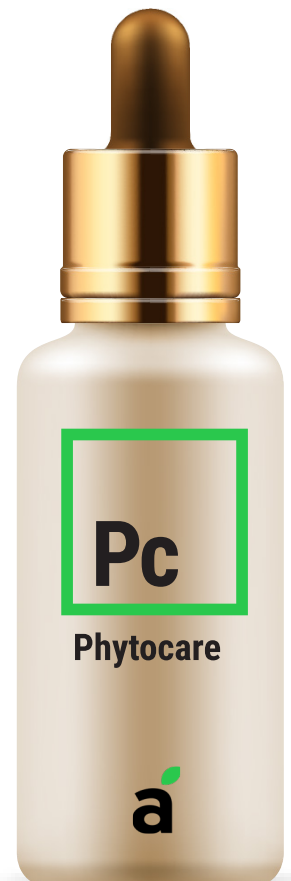
Holds up to 500 times its own weight in water, providing benefits similar to that of hyaluronic acid but from a cleaner, more natural source.

🍏 High Quality, Sustainably Sourced Cosmetic Grade Extract

Produced in a HACCP, ISO 9001 and ISO 22000 Certified agricultural plant, combining modern quality control processes with traditional organic growing methods using upcycled cotton byproducts.

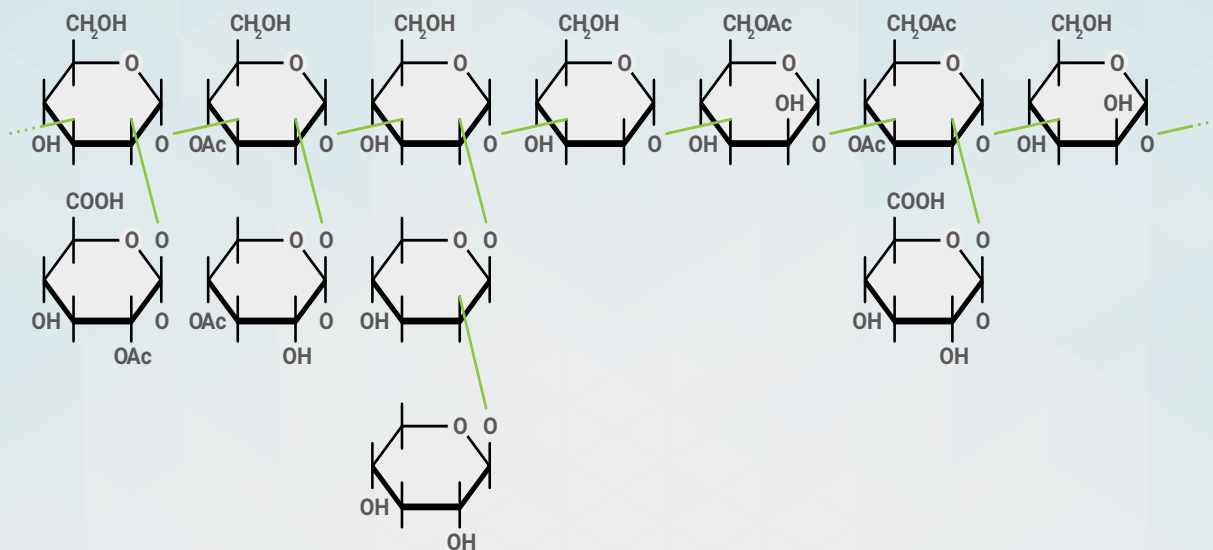
🍏 Patented Extraction Methodology

Unique preparation method ensures active heteropolysaccharides are extracted in their purest form, untouched by pesticide residues or harsh solvents.



Product INCI and Applications

TRADE NAME	INCI	PRIMARY APPLICATION	FEATURES
<div style="border: 2px solid green; padding: 5px; display: inline-block;"> Pc^{1M} </div> Phytocare-HA CG 1M	Tremella Fuciformis Sporocarp (Snow Mushroom) Extract	<ul style="list-style-type: none"> All skincare formulas, from standard moisturizing lotions to clean beauty creams. 	High molecular weight polysaccharide active. More flexible and softer hydration film on skin with preferred sensory. Delivers long-term hydration and anti-oxidation benefits. Strong tolerance for a wider ranges of temperature, pH, and salt.
<div style="border: 2px solid green; padding: 5px; display: inline-block;"> Pc^{DH} </div> Phytocare-HA CG DH	Tremella Fuciformis Sporocarp (Snow Mushroom) Extract	<ul style="list-style-type: none"> Dermaceutical Skincare Skin Wellness Formulations 	<p>"Deep Hydration" low molecular weight polysaccharide active. Micromolecule allows for deeper penetration into dermis layer to re-hydrate skin cells. Provides skin renewal benefits through biomimetic signaling. Microbiome friendly with prebiotic function to promote growth of popular probiotic bacteria.</p> <p>Synergizes well with high molecular Phytocare grades, creating a snow mushroom complex for protective outer water retention film and hydration of skin cells deeper in skin.</p>



Phytocare's Complex Polysaccharide Molecular Structure

Much like standard hyaluronic acid, Phytocare-HA CG 1M holds up to 500 times its own weight of water, creating a natural flexible hydration film on skin. The main difference between Phytocare-HA CG 1M and hyaluronic acid is the snow mushroom features a longer, more robust chain comprised of 1,3-mannose sugar monomer, along with many short branches or side chains of xylose and glucuronic acid.

The differences in molecular composition allow the 1M grade to create a more flexible hydration film with stronger integrity, while also being easier to dissolve into water. Phytocare-HA is dramatically more tolerant to changes in pH, temperature, and salt content, making it easier to use in formulations.

Phytocare-HA CG 1M

Features & Benefits

A Partnership Between Nature and Science

In 2001, scientists at Shanghai Huiwen Biotech began a systematic scientific investigation into the Snow Mushroom. They were experts in their respective fields with diverse backgrounds in plant cell physiology, plant and pharmaceutical chemistry, Chinese traditional medicine, and botanical science. They were able to identify the key actives and molecular structure of the Snow Mushroom, conducting systematic in-vitro and in-vivo clinical studies to verify both its benefits and safety.



Restore Natural Skin Vitality

- Holds 500 times its own weight in water.
- Clinically proven to improve skin hydration over time.
- Clinically proven to boost stratum corneum's capacity to hold water.



"Second Skin" Hydration Barrier

- **Creates stronger, more flexible film vs. hyaluronic acid.**
- Clinically proven to reduce evaporation of water from skin.
- Improved, non-tacky sensory.
- Reduce exposure to environmental pollutants.



Boost Natural Antioxidant Defense

- Stimulates production of super oxide dismutase (SOD), an enzyme naturally produced by your body to combat free radical exposure.
- Clinically proven to reduce malodialdehyde (MDA) levels, a measure of overall oxidative stress on skin.



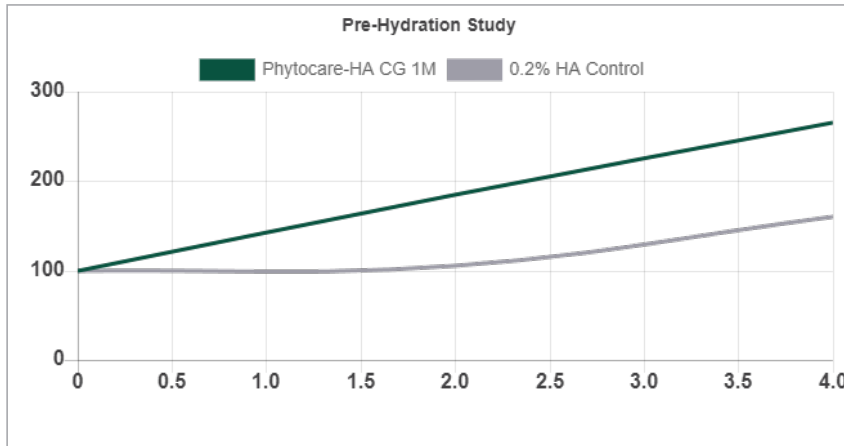
Panel Tested for Sensory Performance

A 0.2% solution of both Phytocare-HA CG 1M and traditional hyaluronic acid was prepared for this consumer test panel. An in-vivo blind panel test was conducted with the solutions applied to either side of the face. 62% of panelists preferred the feel of the Phytocare solution over hyaluronic acid with 10% remaining neutral.

Clinical Studies

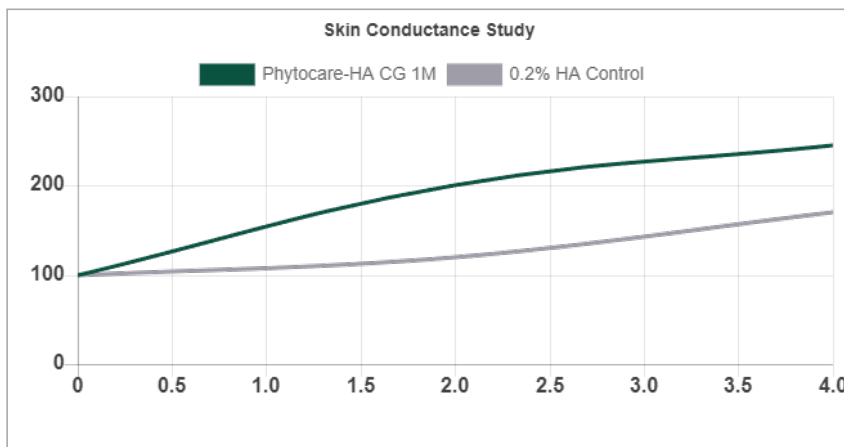
All tests were conducted using a 13 subject in-vivo testing protocol using skin conductance instrumentation to measure hydration levels of a period of 4 weeks. Subjects were treated with two aqueous solutions, one containing 0.2% Phytocare-HA CG 1M and a control containing 0.2% standard HA, applied twice per day.

The Results vs. Hyaluronic Acid



Pre-Hydration Study

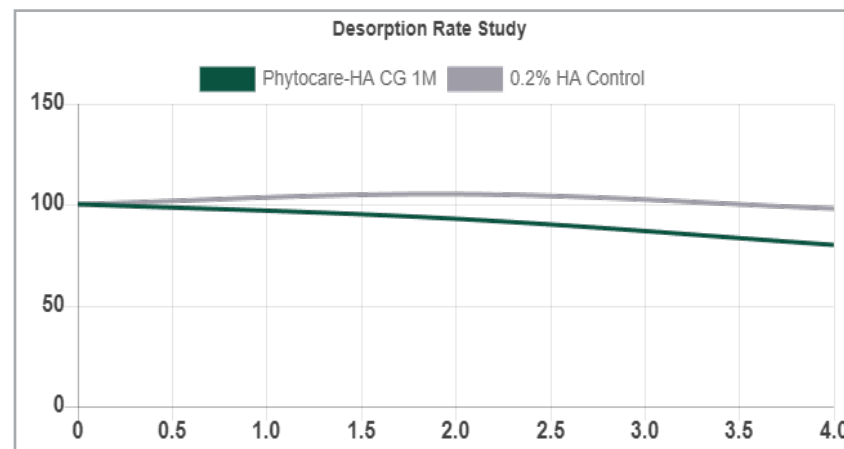
A 4 week clinical study measuring the stratum corneum's hydration state over time. Phytocare is an extremely powerful water retention active, providing cumulative, long lasting hydration replenishment to damaged skin, restoring the skin's natural vitality and ability to resist environmental stressors. This particular study shows that the hydration level of skin treated with Phytocare increased 2.6 times over the course of four weeks.



Skin Conductance Study

This clinical study measures the stratum corneum's ability to absorb and retain water over time. Treatment with Phytocare-HA CG 1M demonstrates that the stratum corneum's capacity for retaining water was increased over a period of 4 weeks.

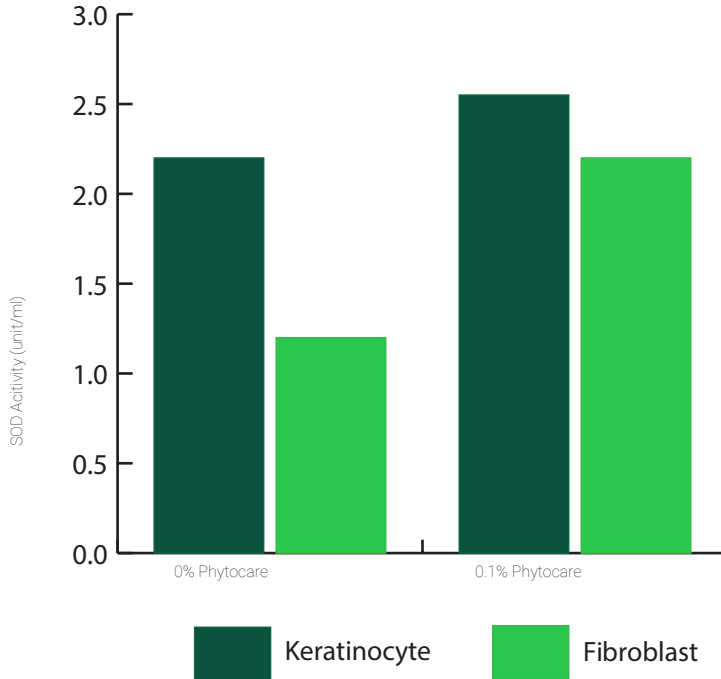
In other words, the 1M grade helps to boost your skin's ability to remain healthy, strong, and supple over time.



Desorption Rate Study

This desorption study measures the overall strength of the stratum corneum's barrier function, and its ability to keep water from evaporating out. Phytocare significantly lowers the desorption rate, signifying a stronger, healthier skin barrier.

Boosting Natural Defenses



Super Oxide Dismutase (SOD) Comparison

In-vitro study conducted to measure the level of antioxidant production post-treatment with 0.1% Phytocare-HA CG 1M solution.

This solution was added to fibroblast and keratinocyte skin cell cultures, then cultivated for 24 hours.

Study showed a clear improvement in SOD enzyme activity post-treatment.

Phytocare-HA CG 1M naturally boosts your body's biological defense against oxidative stress, rather than affecting a direct chemical change in free radical molecules. Phytocare^{HA} helps combat damaging environmental pollutants by stimulating enzymatic production of super oxide dismutase, the body's natural anti-oxidant defense against free radical molecules.

Clean Sourcing, Safety Focused

TEST NAME	RESULTS
Eye Irritation Test	Passed
Acute Oral Toxicity	LD50 > 5000 mg/kg
14-Day Continuous Skin Irritation Test	Passed
AMES Test	Passed
Chronic Toxicity Test	Passed
RIPT Irritation Test	Passed
Pesticide Residue Test (434 Chemicals)	Passed (conducted annually)

Stringent Safety Testing

While snow mushrooms can be found in specialty Asian stores within the United States, the growing and extraction methods used to produce Phytocare-HA helps ensure the extract is safe and suitable for cosmetic use.

The snow mushroom used in the Phytocare-HA extraction process is sourced from clean organic farming techniques, is not genetically modified, and is tested annually for over 400 pesticides in an accredited independent Japanese laboratory.

Phytocare-HA has also passed a significant battery of safety tests, ensuring that the final product is the safest, purest form of snow mushroom essence.

Snow Kiss Hydration Concentrate (SC-F 026(N) V3)

A luxuriously rich, concentrated serum that delivers intense hydration with a unique cooling effect during application. Absorbs quickly with a smooth, non-tacky afterfeel, and leaves a distinctive “second skin” hydrating film with anti-irritation benefits.

SENSOGEL, a sensorial rheology modifier for emulsion systems that provides a surprisingly non-tacky, “super-fresh” sensory with a quick-absorbing feature. The stable and consistent performance makes it easy to create a range of textures from sprays to butters by simply varying the usage rate.

PHYTOCARE-HA CG 1M is one of two magic hydration powerhouse actives extracted from Snow Mushroom. Phytocare-HA CG 1M forms a moisture-restoring flexible film to hydrate and repair the skin, thus rebuilding skin elasticity.

PHYTOCARE-HA CG DH is one of two magic hydration powerhouse actives extracted from Snow Mushroom. Phytocare-HA CG DH penetrates the skin to hydrate deep in the skin layers and promote the generation of hyaluronic acid in the dermis.

Note: For SC-F 026(N) , prototype with N is using Sensogel Novus, prototype without N is using Sensogel 200.

PHASE	INCI NAME (TRADE NAME)	USAGE (WT%)
A	Tremella Fuciformis Sporocarp Extract (PhytoCare-HA CG 1M)	0.30
	Tremella Fuciformis Sporocarp Extract (PhytoCare-HA CG DH)	0.30
	Glycerin	6.00
B	Water	89.00
	Sorbitol	1.50
C	Sensogel 200/ Sensogel NOVUS	2.10
D	Preservative	0.30
	Menthone Glycerin Acetal (FrescoLat® MGA Plus)	0.20
	Bisabolol (Dragosanto1 100)	0.30
	Fragrance	Q.S.

Processing Method

1. Mix Phase A as a slurry, then add into Phase B at room temperature at 500 rpm (below 50 Celsius).
2. Add Phase C into Phase AB and mix at 2000 rpm for 15 minutes.
3. Add Phase D and lost water.

Specifications

- 🍏 Viscosity at 5 rpm: 40,000 cP
- 🍏 pH: 5.0
- 🍏 50°C oven: 1 month stable
- 🍏 Freeze-Thaw: Passed 3 Cycles

Get More Formulations

We understand that having strong, stable prototype formulas makes a busy formulator’s life that much easier. That’s why all Applechem formulations must pass a 30 day heat stability test as well as a 3 cycle freeze-thaw test before being approved.

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Phytocare-HA CG DH

Features & Benefits

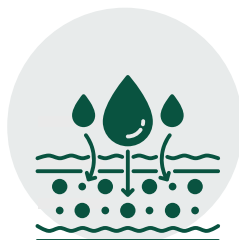
Boost Your Clinical Skincare Results Easily

Phytocare-HA CG DH is a 100% pure cosmetic grade snow mushroom active featuring biomimetic micromolecules. This polysaccharide is designed for “deep hydration”, replenishing water in the deeper skin layers, providing additional nourishment to promote growth and maintenance of healthier skin.



Clean, Effective, Easy to Use

- Easy to incorporate powerhouse hydrating active into natural formulations without changing viscosity or opacity
- Flexible for many skin care and hair care applications
- Suitable for clear, low viscosity solutions



Inside-Out Moisturization

- Biomimetic signaling encourages fibroblast cells to boost internal production of hyaluronic acid by nearly 10%
- Biomimetic signaling encourages growth of deeper fibroblast cells to support stronger skin health
- Deeper penetration into the dermis layer to re-hydrate skin cells, twice as effective as low molecular weight hyaluronic acid



Improves Holistic Skin Wellness

- Synergizes well with high molecular Phytocare grade by creating a multi-functional complex to address exterior and interior skin wellness.
- Tremella polysaccharides function as a prebiotic to promote growth of popular probiotic bacteria such as lactobacillus and bifidobacterium.



Phytocare meets the requirements for:

- Clean + Planet Positive at Sephora
- Conscious Beauty at Ulta
- Credo Clean
- Conscious Beauty at Blue Mercury
- Target Clean
- Grove Collaborative Beauty

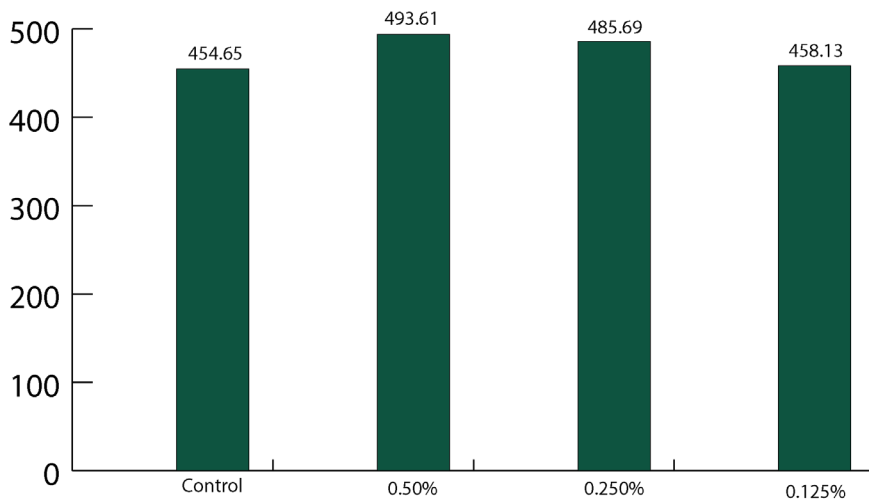
Clinical Efficacy Testing for Cell Health

All tests were conducted on fibroblast cells as these skin cells reside within the deeper dermis layer, and are responsible for production important enzymes like collagen and hyaluronic acid. In this protocol, HS68 fibroblast cells were cultured with DMEM medium containing calf serum. Double confirmation of stable cell growth followed by isolation of cells with a growth-fusion rate of 80%. Two clinical tests were run concurrently using cells cultivated from this protocol.

Test samples: 0.125%-0.50% Phytocare-HA CG DH

The Results

HA Content
ng/ml

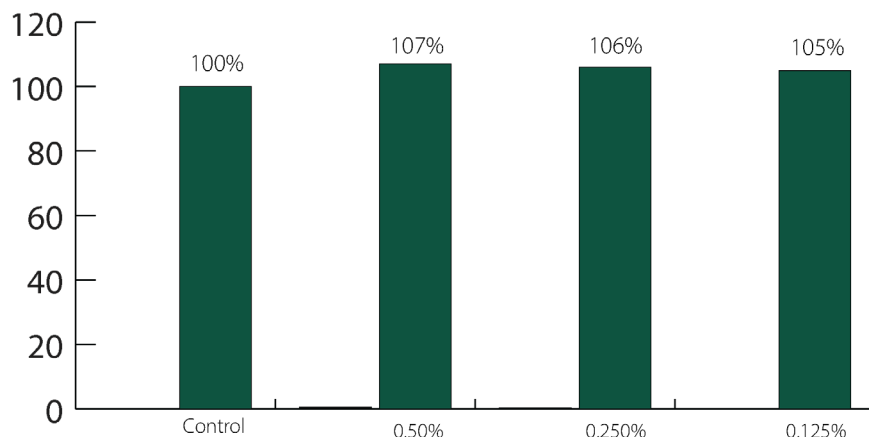


Hyaluronic Acid Production Study

A 72 hour clinical study measuring the amount of hyaluronic acid secreted by cells treated with 0.125%, 0.25%, and 0.50% Phytocare-HA CG DH solutions ($P < 0.05$).

The results showed that the DH grade can boost the natural production of hyaluronic acid within the cells residing in the deeper dermis layer by nearly 10%, all within a relatively short time frame. Doing so helps boost overall skin hydration from the inside out by improving the dermis layer's ability to store water.

Cell Survival Rate, %



Fibroblast Proliferation Study

A 72 hour clinical study measuring the growth rate of fibroblast cells treated with 0.125%, 0.25%, and 0.50% Phytocare-HA CG DH solutions ($P < 0.05$).

The results showed a statistically significant increase in the number of fibroblast cells within the culture medium, cells which are required for skin maintenance and repair. Enhancing the body's ability to strengthen and reproduce cells deeper within the skin implies that the DH grade can contribute to overall skin wellness and health.

Phytocare-HA in Combination

Phytocare-HA CG 1M

Excellent film forming property, generates layer of moisturized skin-friendly protective film on the skin during application. This film is able to help the skin surface lipid and cuticle to reinforce the "water retaining dam" which prevents moisture in the skin from evaporating.

This film also acts as a protective barrier against external environmental aggressors, preventing them from interacting with the skin and potentially generating damaging free radicals.

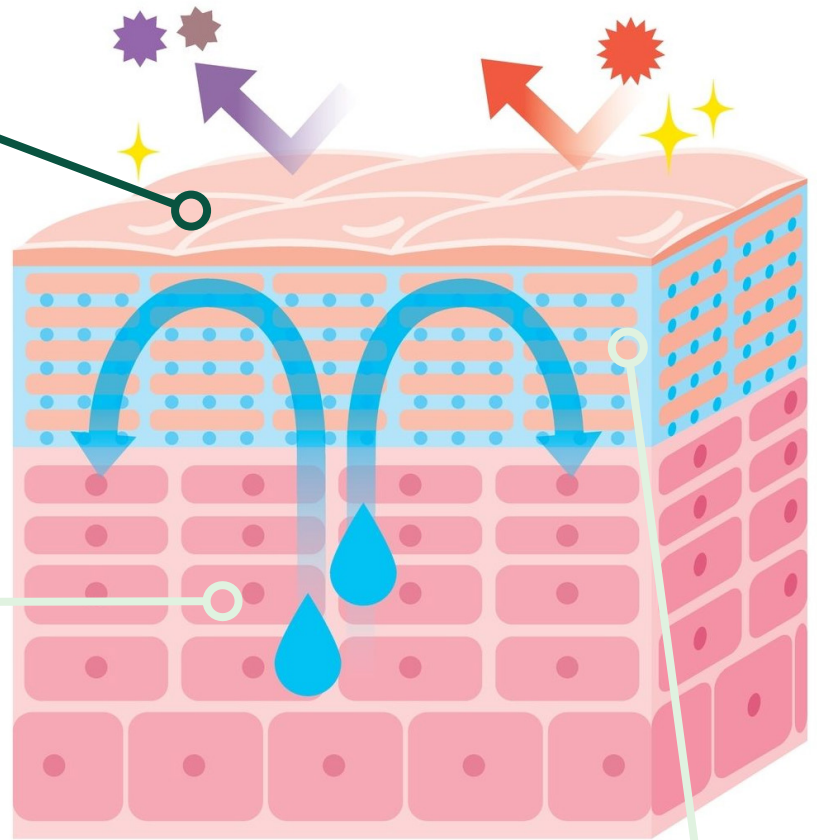
Phytocare-HA CG DH

Promotes generation of hyaluronic acid in the dermis which improves its ability to retain moisture, ensuring that the cells in the dermis layer have sufficient water supply.

Replenishment of water to deep skin layers to nourish cells and promote anti-aging.

Phytocare-HA CG DH penetrates the skin barrier more effectively than lower molecular weight HA.

Phytocare-HA Virtuous Cycle



The combination the CG and DH grades supports a "virtuous cycle" for skin wellness, combining external skin barrier protection, healthy microbiome support, improved skin hydration through deeper penetration, and stimulating skin cells to enhance natural production of healthy enzymes.

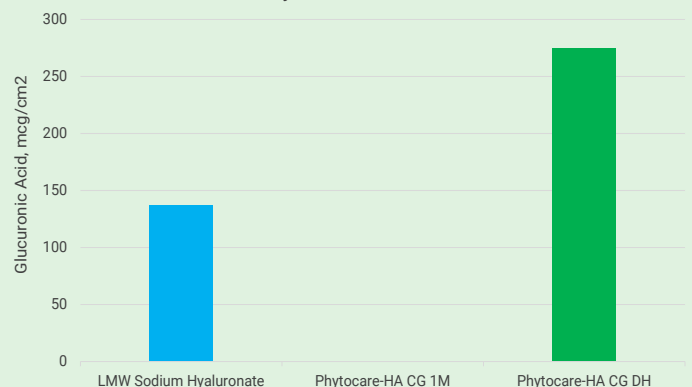
Skin Permeability Study

Protocol: 0.2% active solution applied for 8 hours using artificial skin

- LMW Sodium Hyaluronate (5000 Da)
- Phytocare-HA CG 1M
- Phytocare-HA CG DH

Measured glucuronic acid to determine total penetrated sugar after 8 hours

Skin Permeability of Snow Mushroom Extracts



After Sun Daily Repair Lotion (SC-F 031N)

A hydrating daily lotion with a light, water-fresh texture that delivers a multitude of active ingredients to soothe and heal sun-damaged skin. Fast absorbing with a refreshing, hydrating afterfeel, this lotion features a high end sensory profile.

While Phytocare-HA CG 1M forms a hydrating film on the skin, Phytocare-HA CG DH penetrates the skin to promote hydration deep in the skin layers. The addition of bisabolol, panthenol, aloe and vitamin E serves to complement the hydrating effect of the Phytocare actives by offering additional anti-irritation and anti-oxidant benefits.

SENSOGEL NOVUS is a very powerful polyol thickener which is used to great effect in this formula. Not only does it boost the viscosity of polyols like glycerin from a soft liquid into a structured gel, but also tamps down on the traditional stickiness associated with these types of ingredients.

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PHASE	INCI NAME (TRADE NAME)	USAGE (WT%)
A ₁	Water	68.50
	Aloe Juice Concentrate 10x	5.0
	DL-Panthenol	0.30
	Preservative	1.0
A ₂	Tremella Fuciformis Sporocarp Extract (PhytoCare-HA CG 1M)	0.20
	Tremella Fuciformis Sporocarp Extract (PhytoCare-HA CG DH)	0.20
	Glycerin	10.0
B	Sensogel NOVUS	4.0
	Jojoba Oil	10.0
	Bisabolol (Dragosanto1 100)	0.30
	Vitamin E Acetate	0.50
	Fragrance	Q.S.

Processing Method

1. Add Phase A₁ to the main vessel and slowly mix using a dispersion blade (300-500rpm).
2. In a separate container, mix Phase A₂ to create a slurry. While continuing to mix Phase A₁, add Phase A₂ into the main vessel. Increase the speed to 500-600rpm and continue mixing for 10 minutes.
3. Mix Phase B in a separate vessel until homogeneous.
4. Move the main vessel to a Silverson homogenizer. Slowly add Phase B into the main vessel while homogenizing and increasing speed to 2000rpm. Continue homogenizing for 10 minutes.

Specifications

- 🍏 Viscosity at 10 rpm: 21,000 cP
- 🍏 50°C oven: 1 month stable
- 🍏 Freeze-Thaw: Passed 3 Cycles

Need Samples?

We believe sample requests should be provided generously. We understand trying, testing, and evaluating our ingredients and intermediates are all critical to your research, development, and production processes. So go ahead, ask and you shall receive.

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Phytocare

Create Possibilities

Gb

Gg

Sbx

Sg

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Of

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Create Possibilities

Applechem was founded in 2003 by Dr. Samuel Lin in a tiny laboratory within a tech incubation center in northern New Jersey. Yet even after transitioning from a one-man startup to a stable, global supplier, we've never forgotten our roots as a small, spirited business with big ideas.

We recognize that every personal connection should be valued and validated with responsive customer service coupled with strong technical aptitude. Moreover, we promise to continue expanding the range of possibilities in the formulation space, creating functionality where none existed before and putting an improved spin on traditional ingredient technologies.

Get in touch with us.

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