



Special
chemicals

SCH Actives™ Diamond C

Actives for the skin



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01

Introduction



01

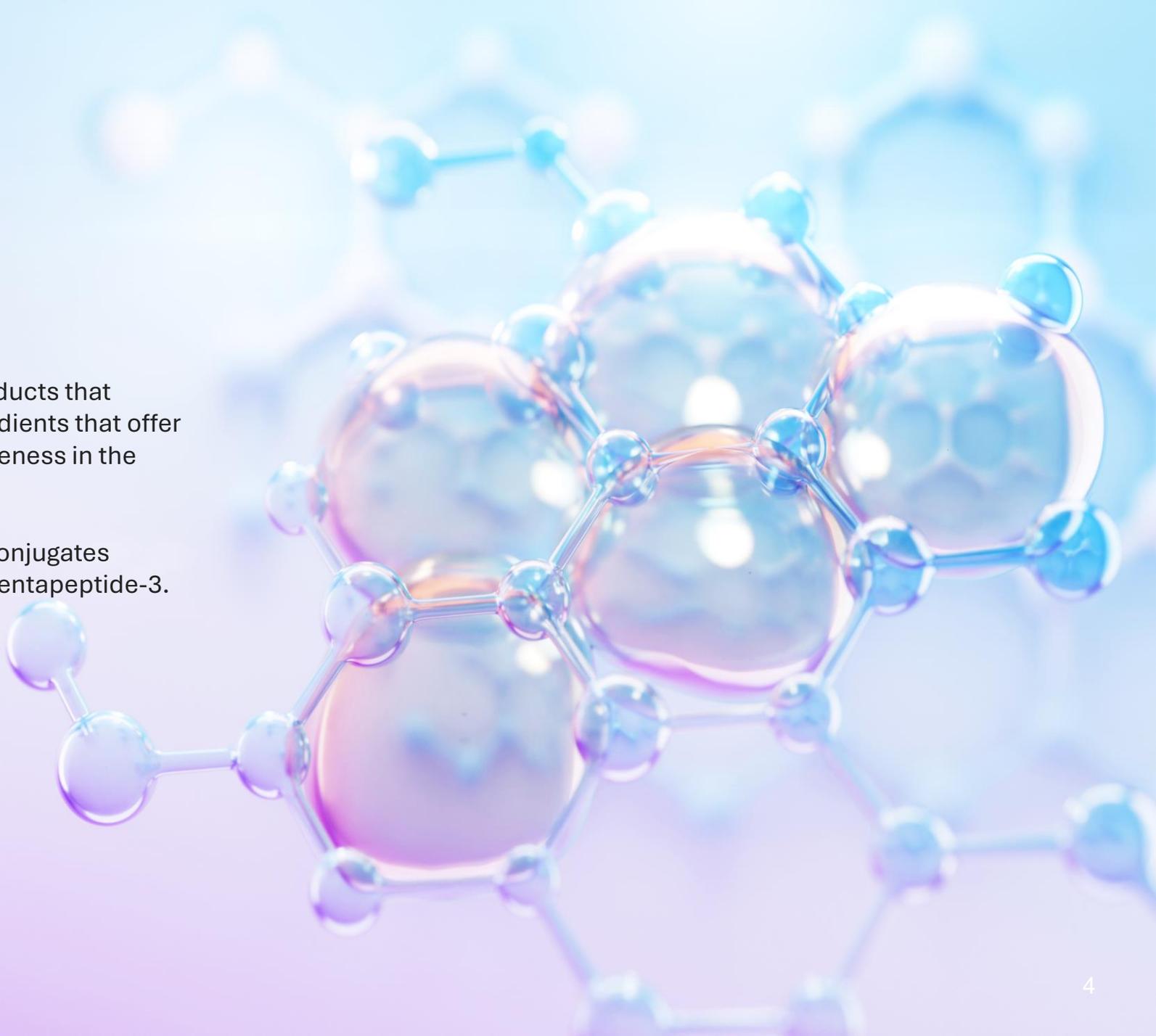
Introduction

The conjugate active ingredients are innovative products that enable the development of high-performance ingredients that offer **unique benefits** for the skin, increasing competitiveness in the luxury cosmetics market.

SCH Actives™ Diamond C is a unique active that conjugates diamond particles with Acetyl hexapeptide-8 and Pentapeptide-3.

Main activities

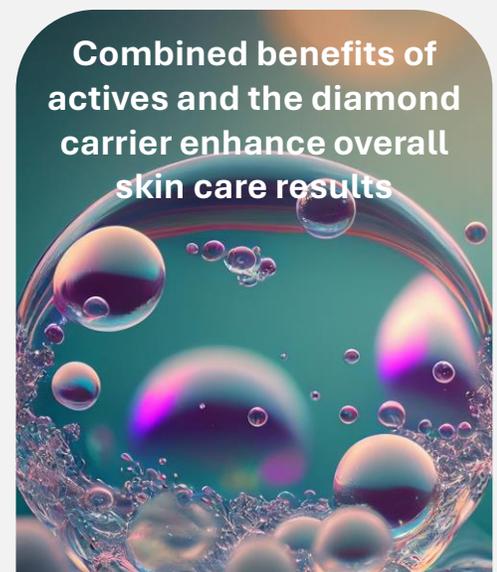
- Wrinkle reduction
- Collagen stimulation
- Immediate glow
- Botox effect





01 Composition

INGREDIENT	%	FUNCTION
Aqua	Up to 100	Solvent
Xanthan gum	0,4 – 0,6	Thickening agent
Diamond powder	0,025 – 0,035	Active
Acetyl hexapeptide-8	0,015 – 0,025	Active
Pentapeptide-3	0,015 – 0,025	Active
Propanediol	4 - 6	Preservative
1,2-hexanediol	0,8 – 1,2	Preservative
Caprylyl glycol	0,8 – 1,2	Preservative



Combined benefits of actives and the diamond carrier enhance overall skin care results



Deep exfoliating and antiaging activity



02

Ingredients



02 Ingredients

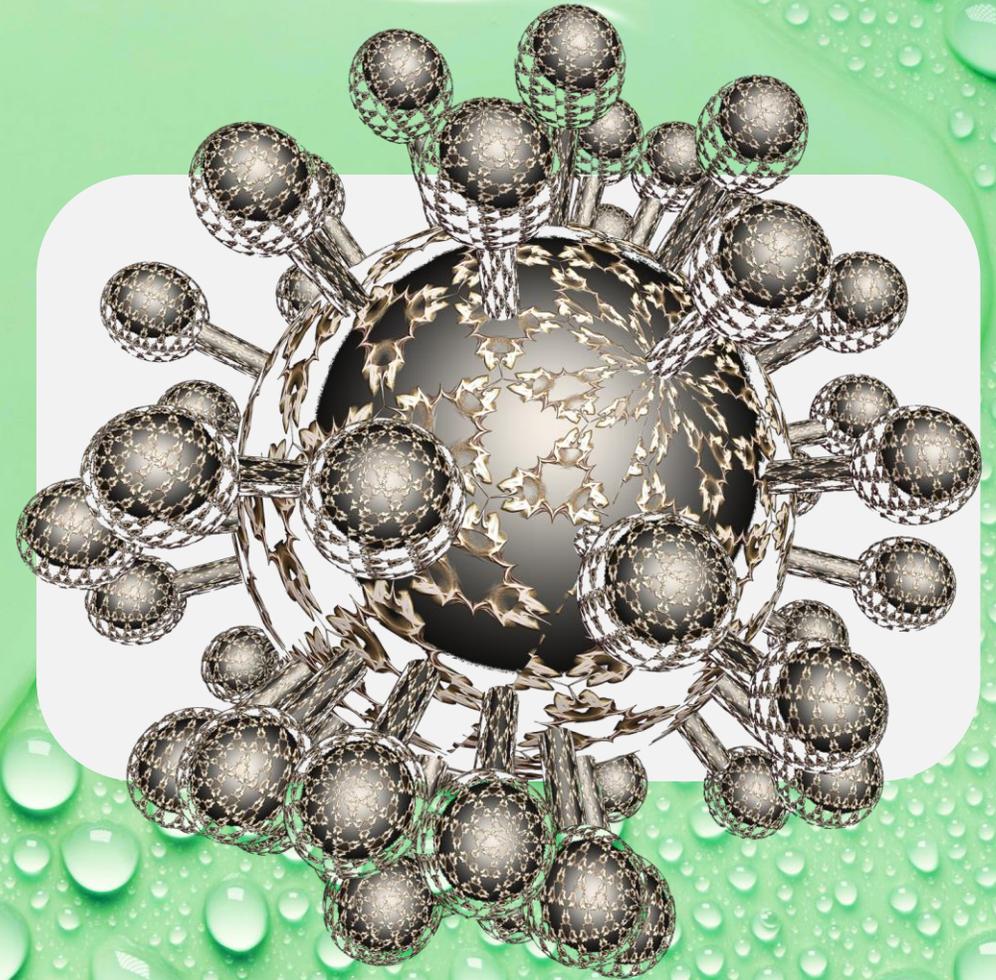
1. Diamond powder

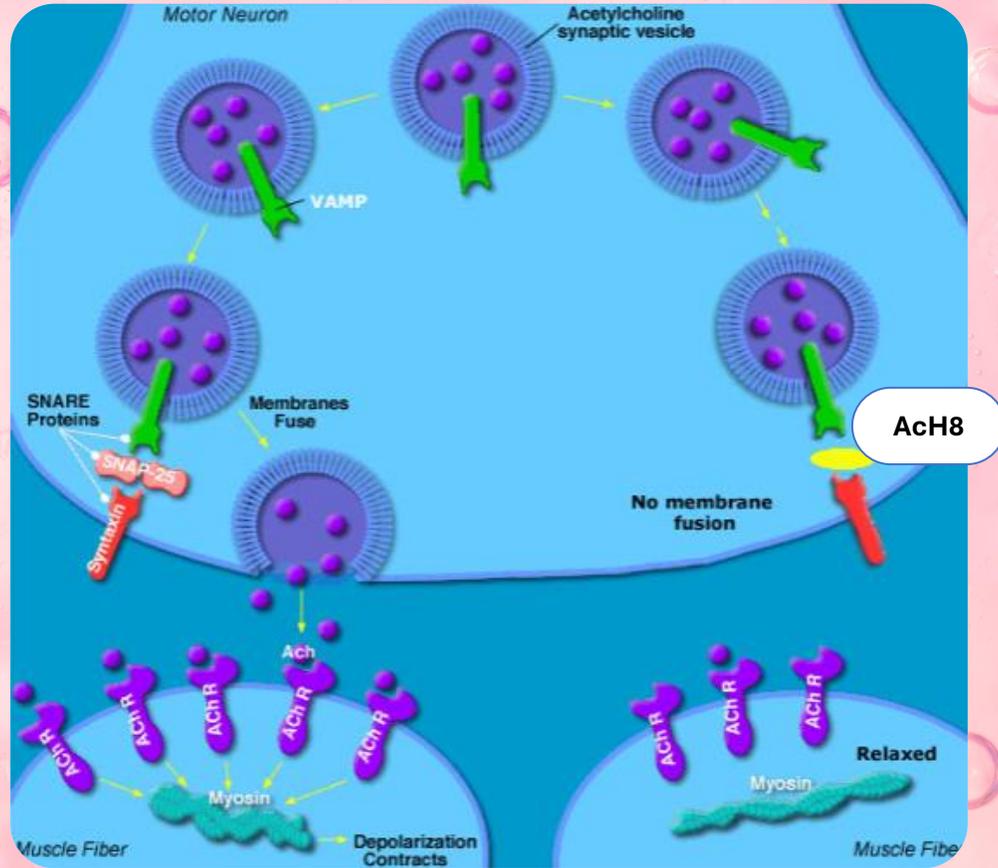
Antiaging / Luminosity / Active carrier

Diamond is a luxury cosmetic ingredient renowned for its protection properties and **ability to enhance skin tone and clarity, providing a natural glow**. As a carbon-based material, diamond particles enhance cell regeneration and improve skin elasticity, reducing the appearance of fine lines and wrinkles.

When used as a carrier, diamond nanoparticles **facilitate the delivery of active ingredients** deep into the skin, ensuring optimal efficacy. This enhances the bioavailability and stability of the actives, maximizing their benefits. The diamond's exfoliating and rejuvenating properties also help to remove dead skin cells from the surface, promoting **cell regeneration and a younger-looking appearance**.

With particle sizes greater than 100 nm, it does not meet the criteria to be considered a nanomaterial and is also not biopersistent, ensuring **safety and compliance**.





Contracted muscle → Wrinkle formation

Relaxed muscle → Fewer wrinkles

02 Ingredients

2. Acetyl hexapeptide-8

Botox effect / Muscle relaxation / Anti-wrinkles

It is a synthetic peptide designed to mimic the action of the **SNAP-25 protein**. This peptide acts by interfering with the release of neurotransmitters at the neuromuscular junction. Specifically, it **inhibits the release of acetylcholine**, which reduces the contraction of facial muscles. By decreasing the activity of the facial muscles, the **formation of wrinkles and fine lines is reduced**.

It is especially effective in reducing dynamic wrinkles, such as fine lines around the eyes and forehead, and, although less invasive, it offers a wrinkle-smoothing effect comparable to Botox.

02 Ingredients

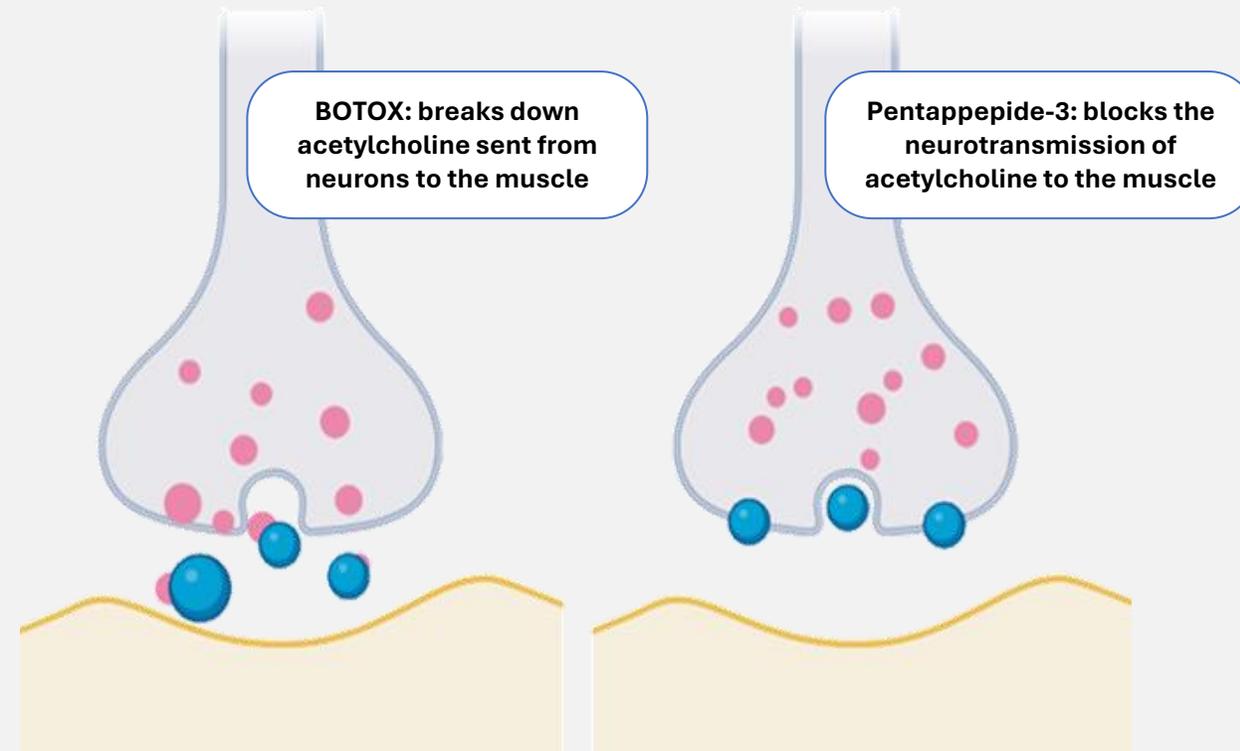
3. Pentapeptide-3

The Expression Smoother

A high-performance anti-aging peptide that primarily targets dynamic wrinkles through neuromodulation, while also boosting hyaluronic acid synthesis to promote hydration and improved skin elasticity.

Key benefits:

- **Softens expression lines:** Reduces dynamic wrinkles by modulating muscle signals.
- **Improves skin smoothness:** Contributes to a youthful facial appearance by promoting fibroblast proliferation and cell renewal.





03 Studies

520 ml
3.3 0808

03 Characterization

TEM image of SCH Actives™ Diamond C shows uniformly sized, round diamond particles, with average size of > 200 nm (218 nm).

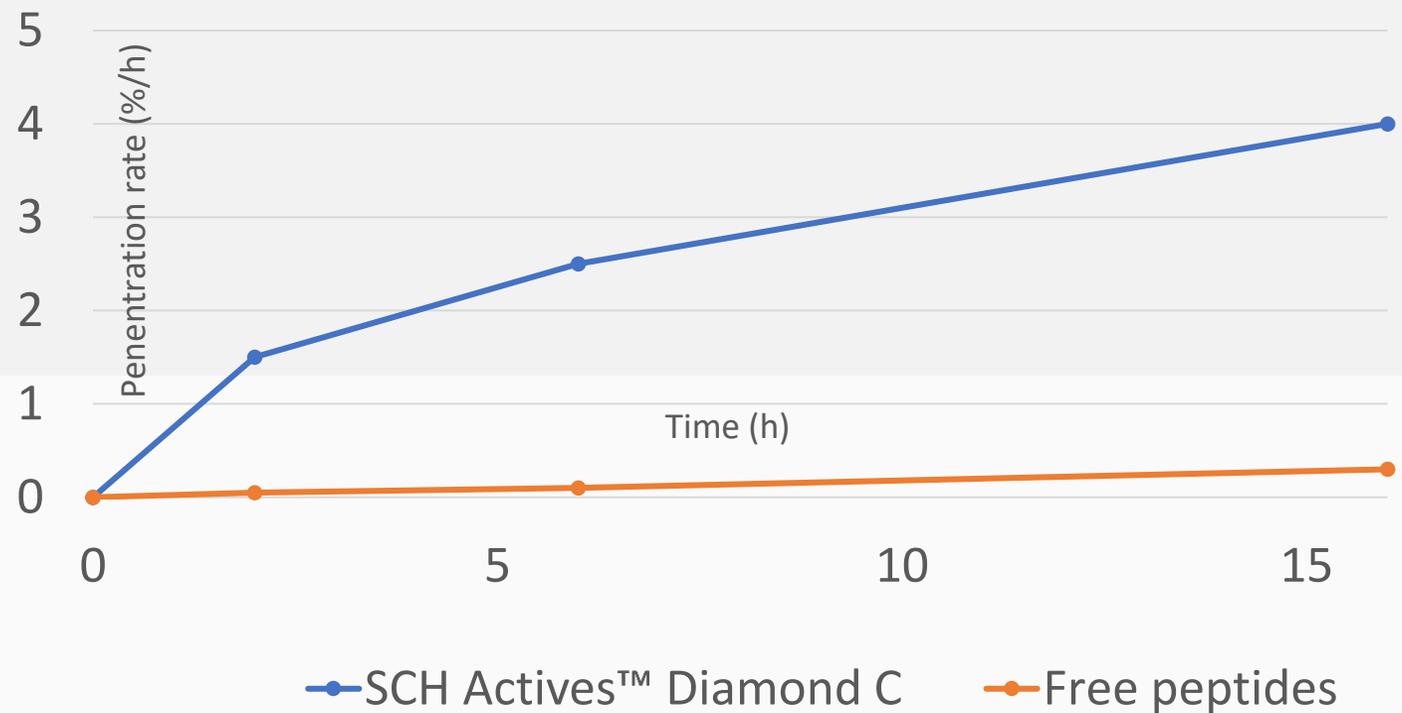




03 Role of diamond as peptide carrier

Peptide association to diamond accelerates 20 times peptide skin penetration. Faster skin penetration means faster cell action.

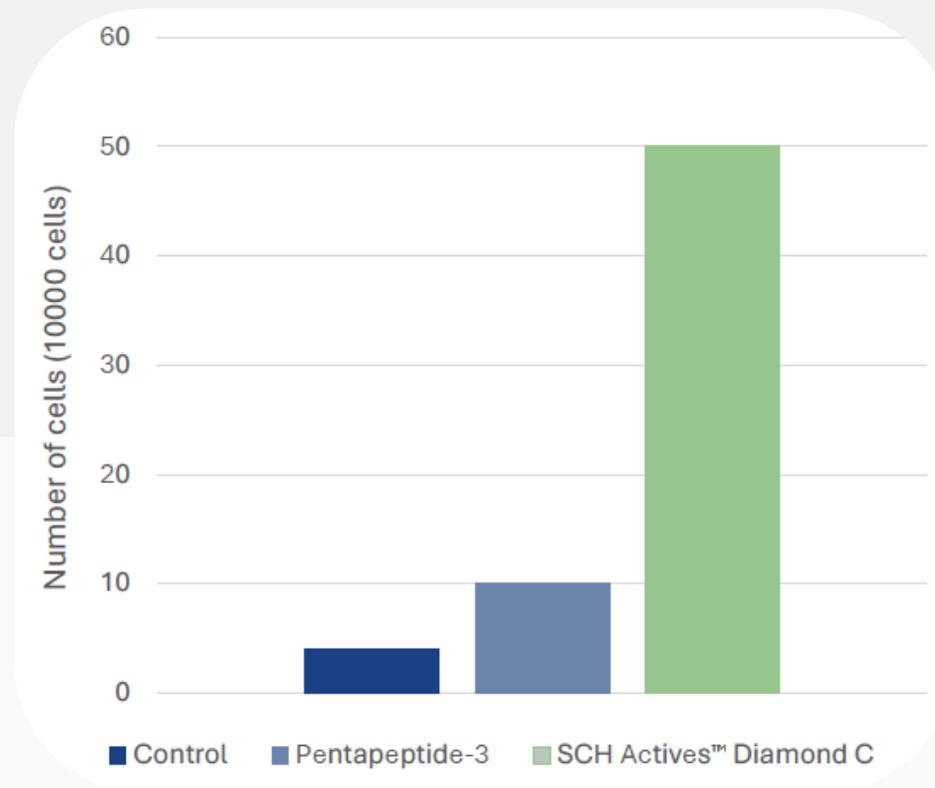
SCH Actives™ Diamond C penetration vs free peptide in pig skin using Franz cells:





03 Stimulation of fibroblast proliferation

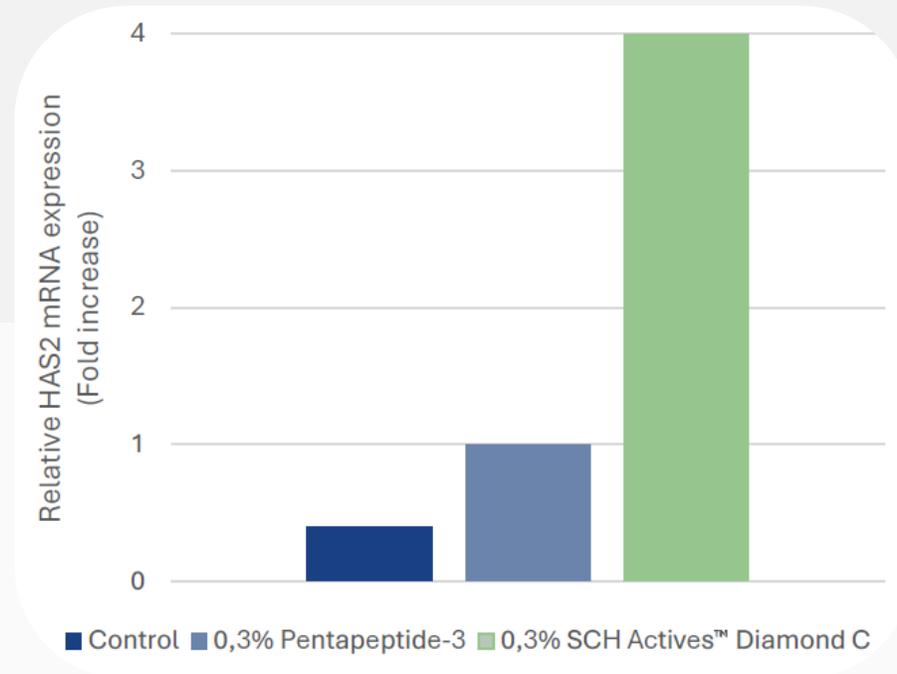
Fibroblasts treated with SCH Actives™ Diamond C showed a substantial increase in proliferation compared to fibroblasts treated with Pentapeptide-3 alone and untreated controls. The effectiveness of SCH Actives™ Diamond C is attributed to increased penetration of the peptide into cells.





03 HAS2 mRNA expression in fibroblasts

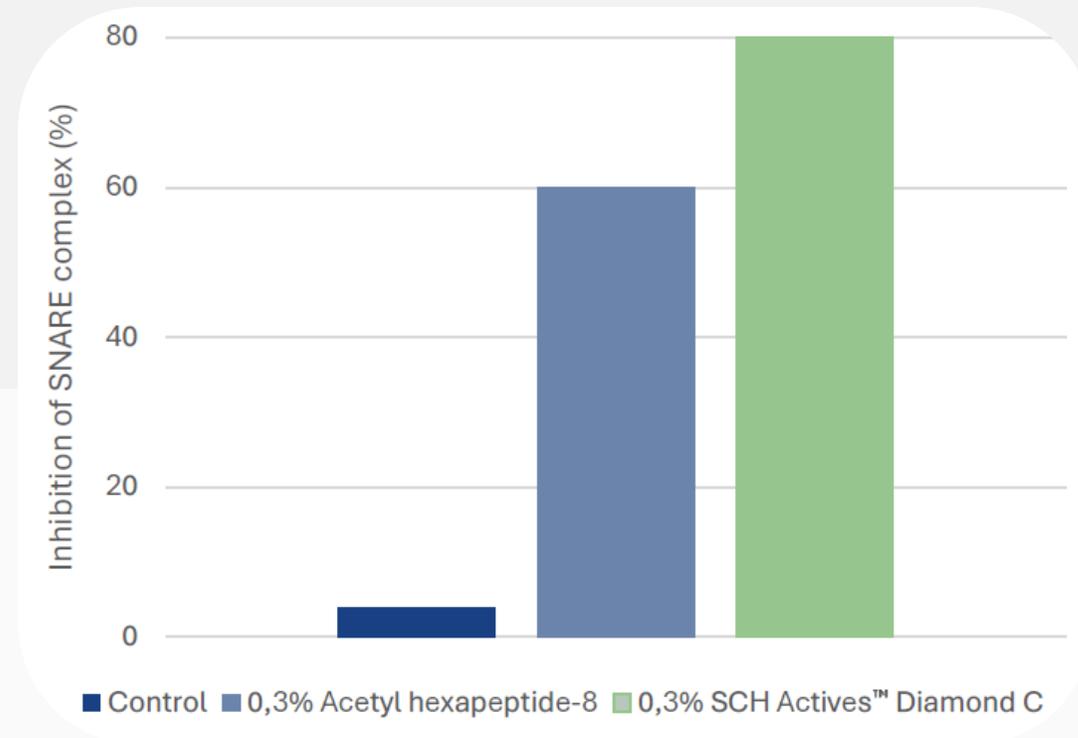
Fibroblasts treated with bFGF (growth factor) were used as a positive control to assess hyaluronic acid synthesis. Treatment with Pentapeptide-3 alone elevated HAS2 mRNA levels, indicating an increase in synthesis. However, SCH Actives™ Diamond C induced a significantly greater increase in HAS2 expression.





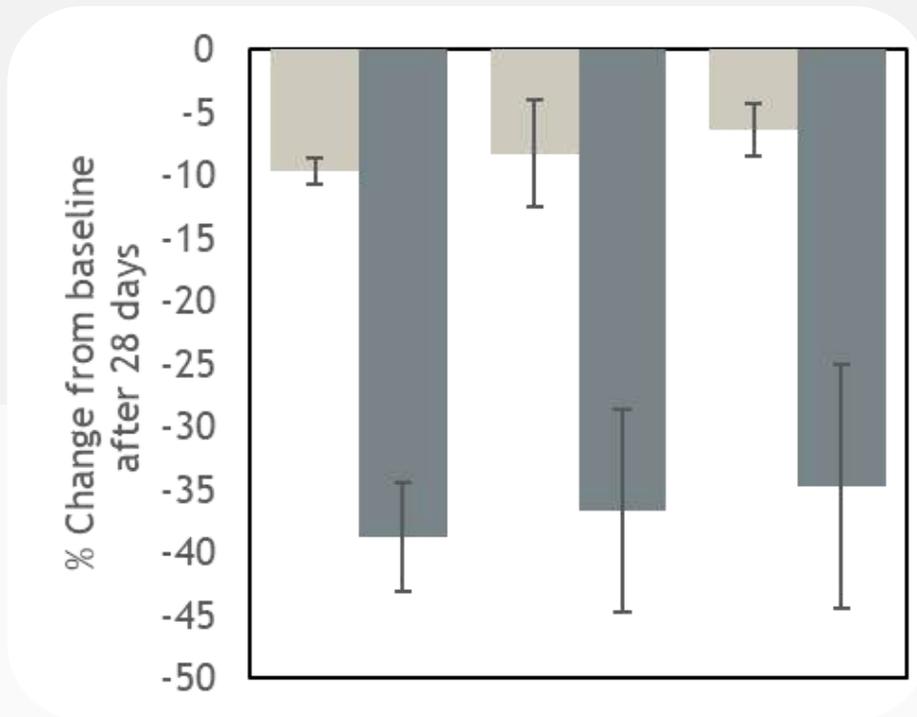
03 Antiwrinkle effect: Inhibition of SNARE complex (%)

The study in PC12 cells demonstrated that while free Acetyl hexapeptide-8 inhibited neurotransmitter release by about 60%, SCH Actives™ Diamond C achieved 80% inhibition. This enhanced effect suggests that the diamond conjugate not only retains the peptide's antiwrinkle properties but also improves its cellular penetration and stability.



03 *In vivo* study: Anti-wrinkle effect of SCH Actives™ Diamond C

Wrinkle volume, length and depth were assessed using the Skin Surface Replica (SSR) method. Replicas of the crow's feet area were collected and analyzed for topographical changes in microrelief before and after treatment.

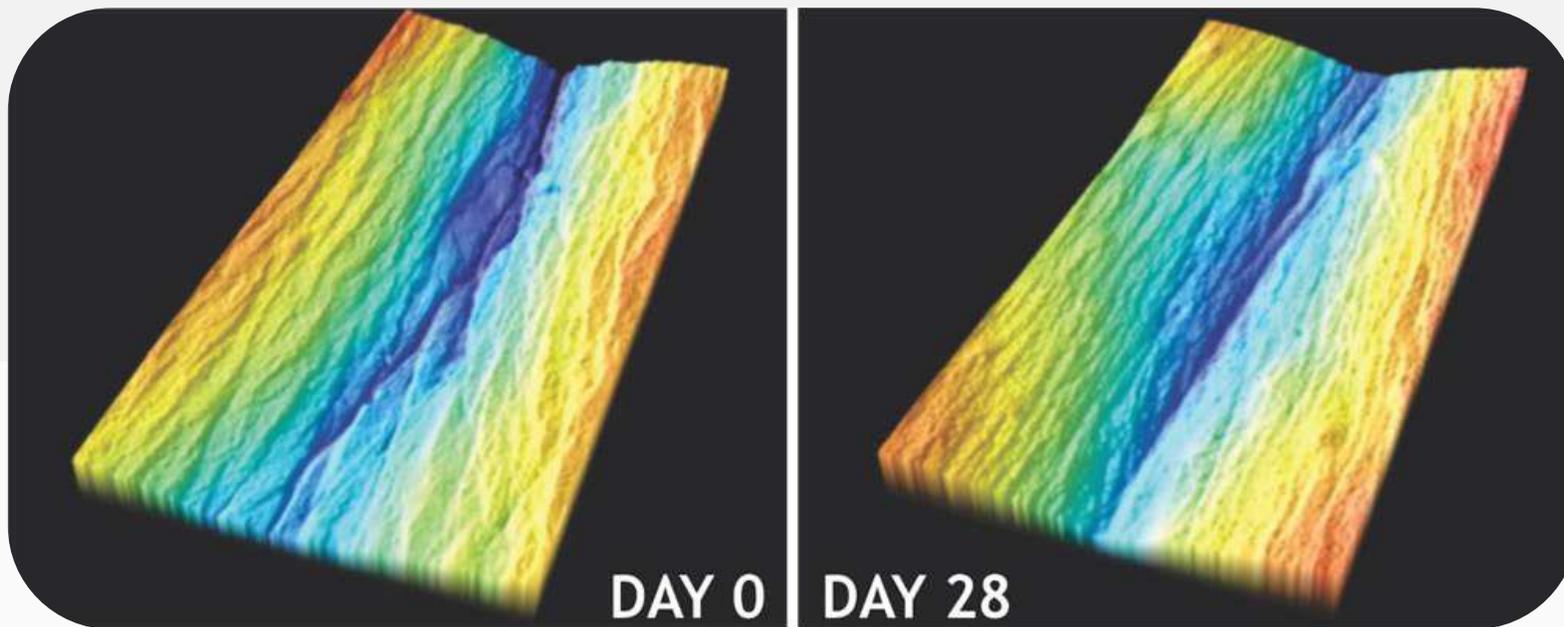


SCH Actives™ Diamond C 0,3% cream reduces **wrinkle volume (-39%)**, **depth (-37%)** and **length (-35%)**, confirming its anti-aging effectiveness.



03 Anti-wrinkle & smoothing effect after SCH Actives™ Diamond C treatment

Twice-daily application for 28 days visibly reduced crow's feet wrinkles. 3D skin surface analysis confirmed significant decreases in wrinkle volume, length, and depth.



03 *In vivo* study: Anti-wrinkle effect of SCH Actives™ Diamond C

Replicas of the skin surface were made in the crow's feet area of 20 people aged 50 to 70 years, obtaining between 8 and 12 replicates per subject. Wrinkle length and depth were measured at baseline (D0) and after 28 days (D28) of treatment. The evaluation was made using the Skin-Visiometer after applying a cream with 0,3% SCH Actives™ Diamond C. The best result showed a 50% reduction in the depth and 42% in the length of wrinkles.

Wrinkle depth (n=20)

D0	D28	% change	p value
4,01 ± 0,31 um	2,4 ± 0,29 um	40	0,001

Wrinkle length (n=20)

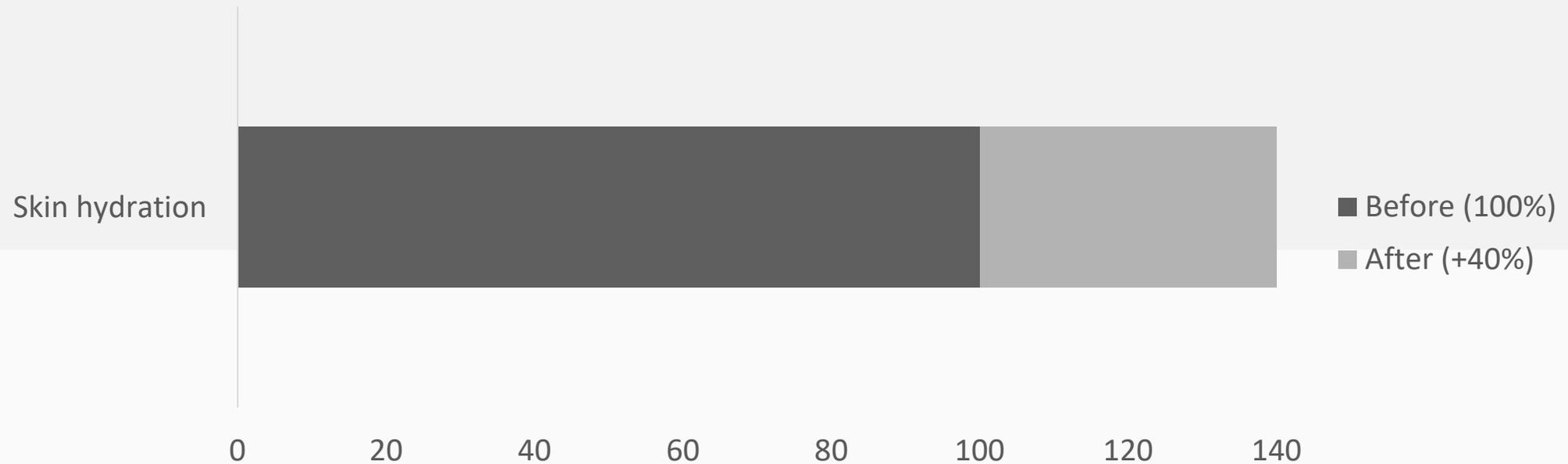
D0	D28	% change	p value
18,14 ± 3,1 um	12,44 ± 0,29 um	31	0,001





03 Deep Hydration. Visible Renewal.

Efficacy of 0,3% SCH Actives™ Diamond C cream after 28 days of twice-daily application. Skin hydration levels in facial wrinkle areas were assessed in 20 participants using a CM825 Corneometer®. SCH Actives™ Diamond C cream increased hydration by 40% from baseline, supporting its role in skin revitalization and wrinkle reduction.





03

Specifications





05 Technical specifications

CHARACTERISTIC	SPECIFICATION
Aspect	Liquid
Color	Off white to grey
Odor	Characteristic
Dosage (%)	0,3 – 0,5
Peptide purity by HPLC	95%
Solubility	Dispersible in water
Regulatory status	
Europe	OK
China	OK
USA	OK





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