

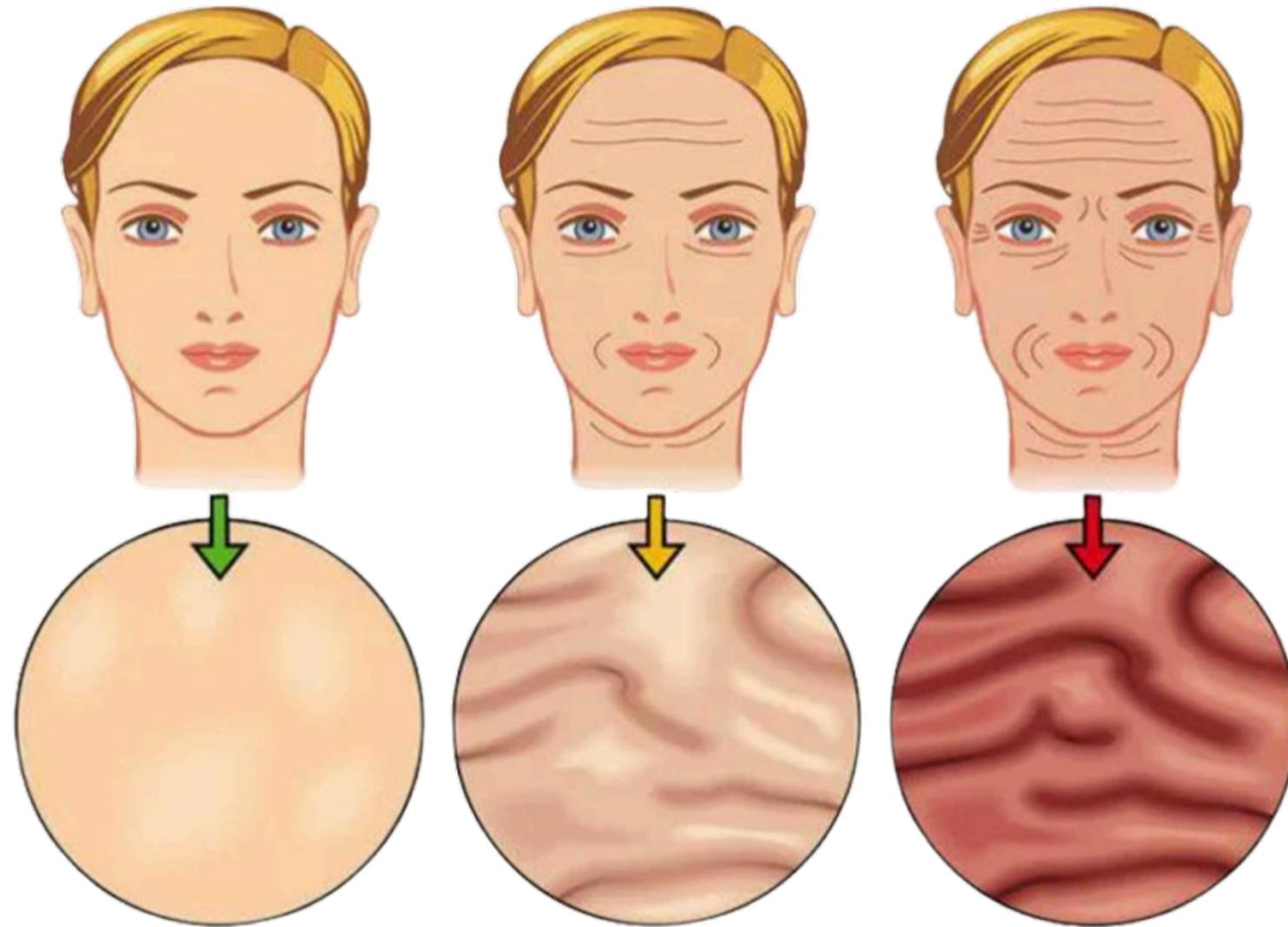


Signal peptide that boosts collagen-support pathways to visibly reduce wrinkles and helps even skin tone

SCH PeptCare™ PaT5

 Innovative ingredients





Main Function

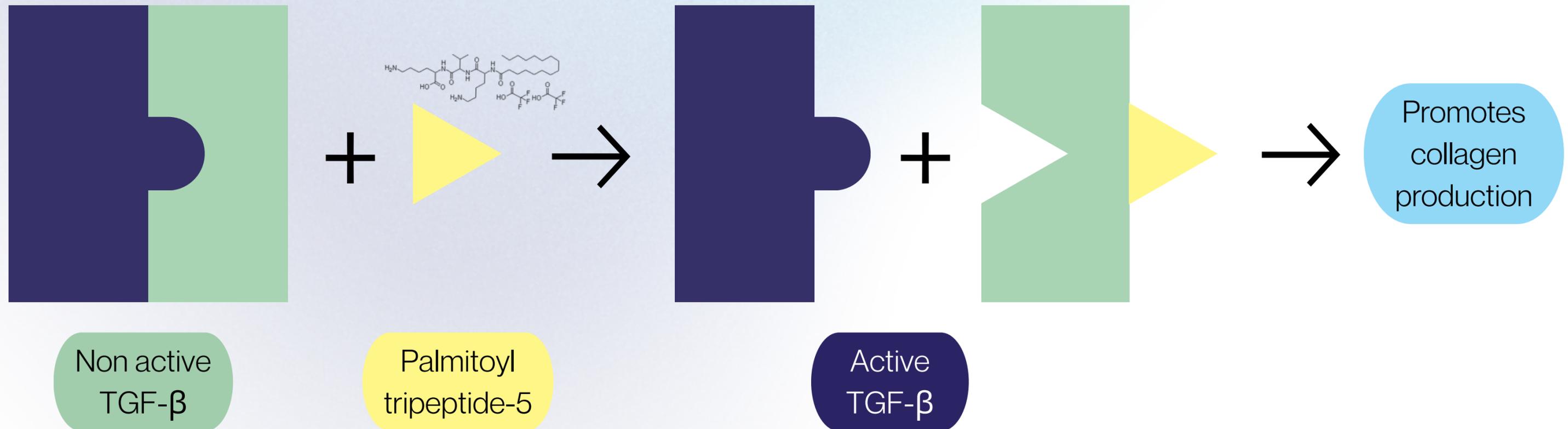
SCH PeptCare™ PaT5 is a signal peptide designed to support **collagen-related pathways** and improve the appearance of wrinkles and skin firmness. Loss of collagen can cause skin flabby wrinkles and dark spots.

It is also reported to support a brighter, more even-looking complexion by **modulating tyrosinase/MITF-related pigmentation markers** in vitro.

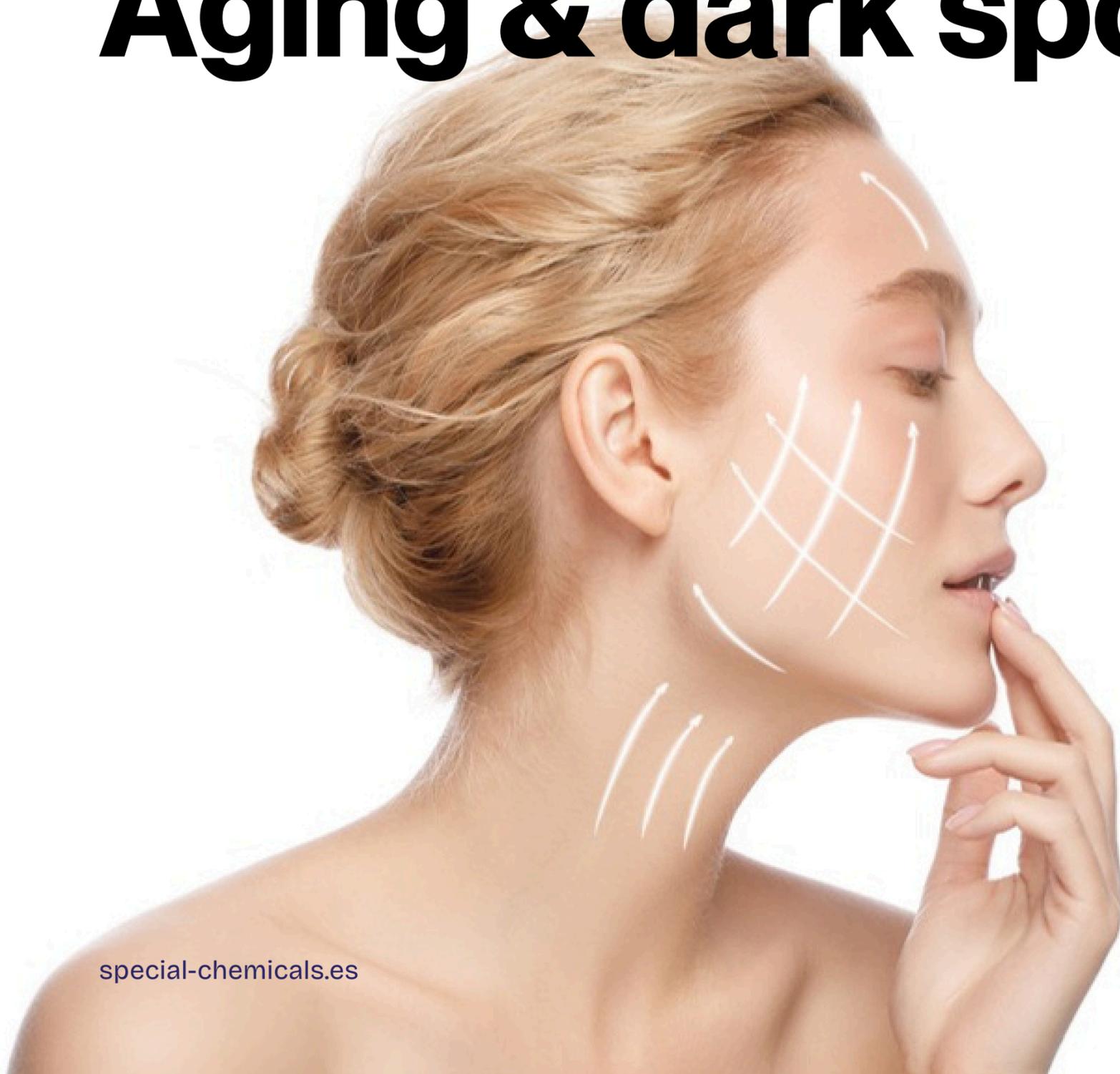
A multifunctional peptide for anti-aging and tone-evening concepts

Palmitoyl tripeptide-5

Signal peptide to support collagen production
and visibly improve wrinkle appearance.



Aging & dark spots: the challenge



Wrinkle formation is linked to **ECM degradation** and reduced collagen support.

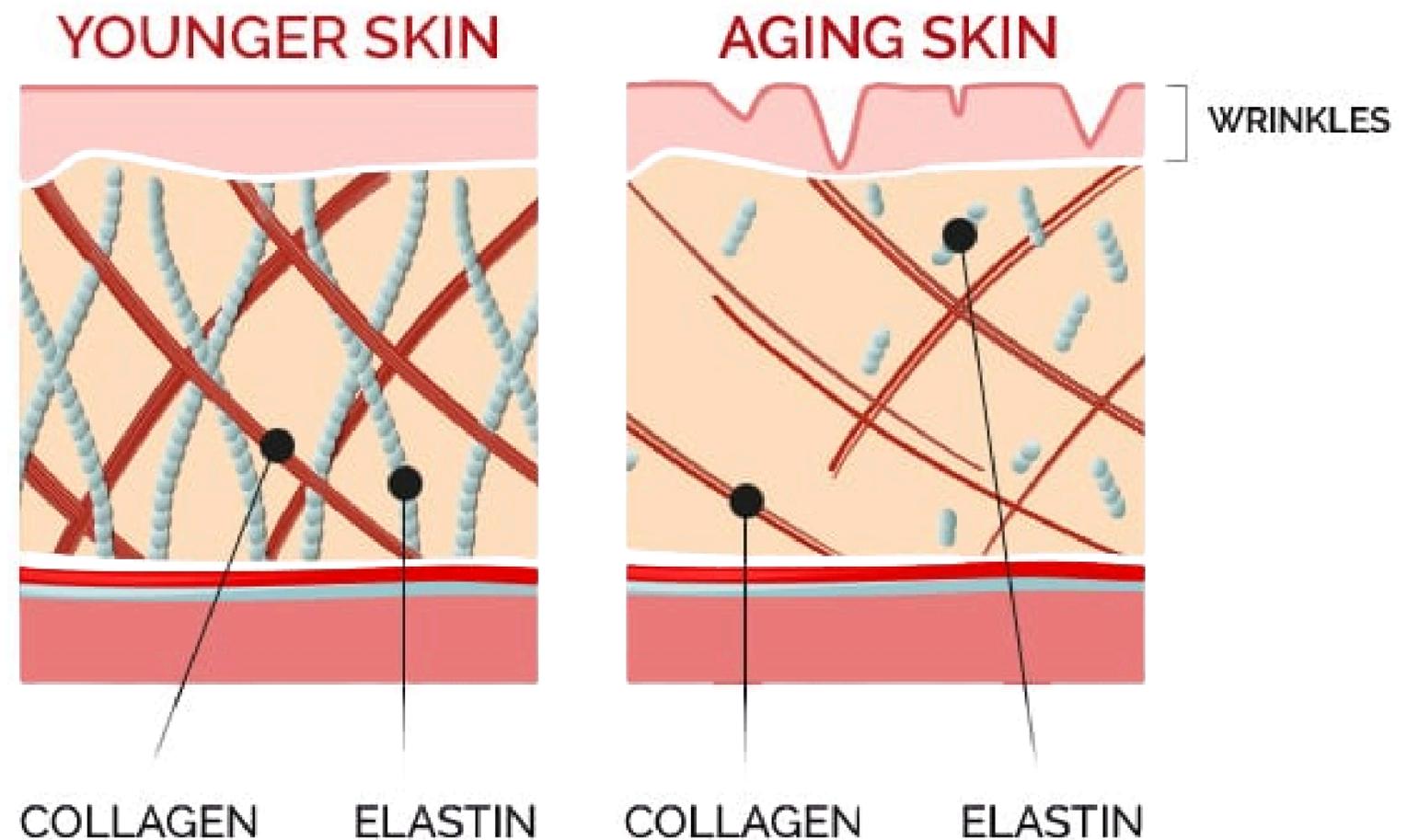
Environmental stress and **intrinsic aging** can accelerate loss of firmness and uneven-looking complexion.

A multifunctional approach targeting firmness + tone is increasingly demanded.

Collagen support & visible anti-wrinkle: the opportunity

Collagen is a key component of the extracellular matrix (ECM), supporting a firm-looking skin appearance. As we get older, skin shows signs of aging due to reduced collagen and elastin production as well as other factors such as exposure to UV rays and tobacco. **TGF- β** is described as a key mediator in collagen synthesis pathways.

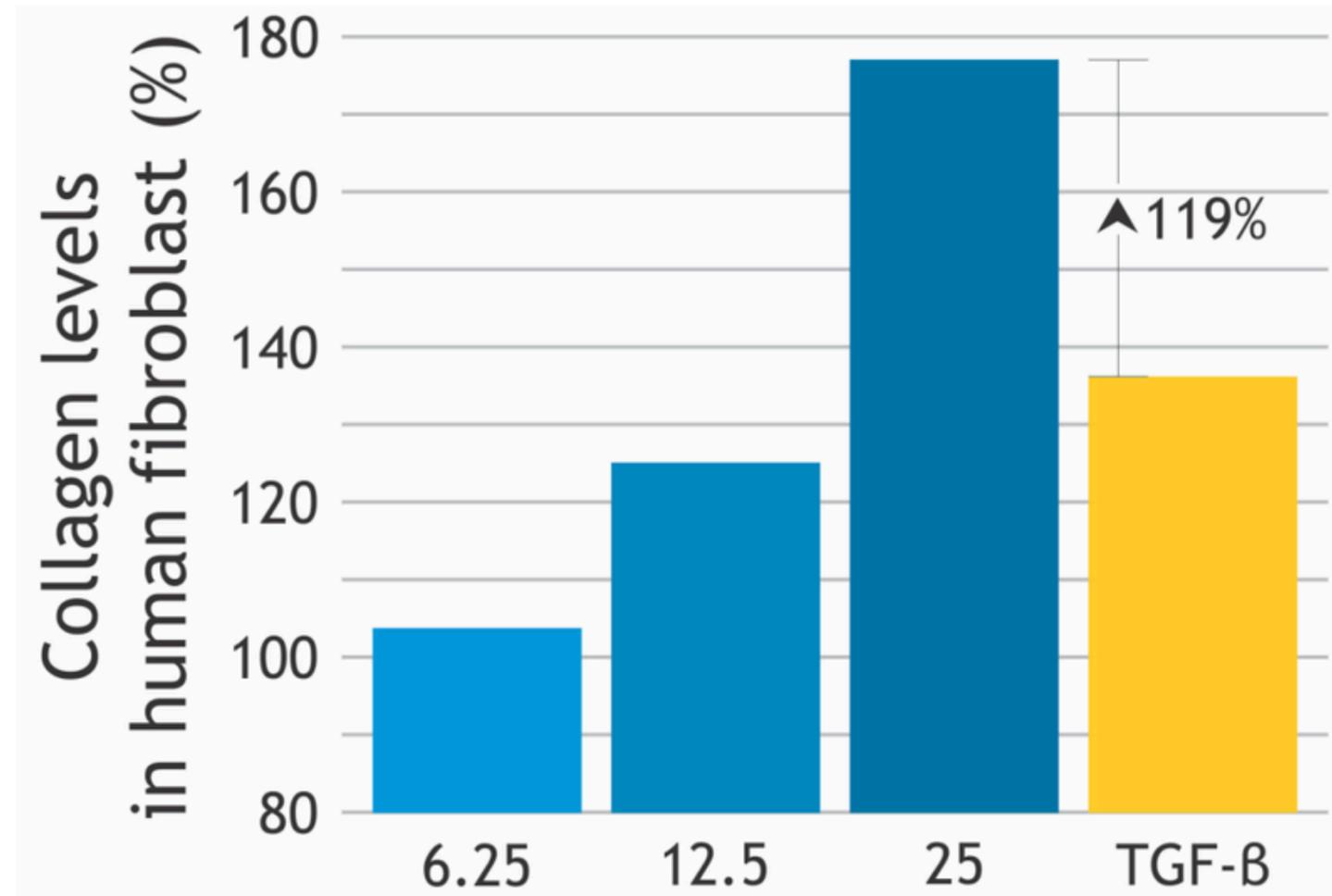
Palmitoyl tripeptide-5 is presented as a collagen tripeptide mimic that can help activate collagen-support mechanisms.



Efficacy Studies

In vitro testing in human fibroblasts, SCH PeptCare™ PaT5 has shown **excellent collagen building capacity** compared to the positive standard TGF-β (0.4 nM).

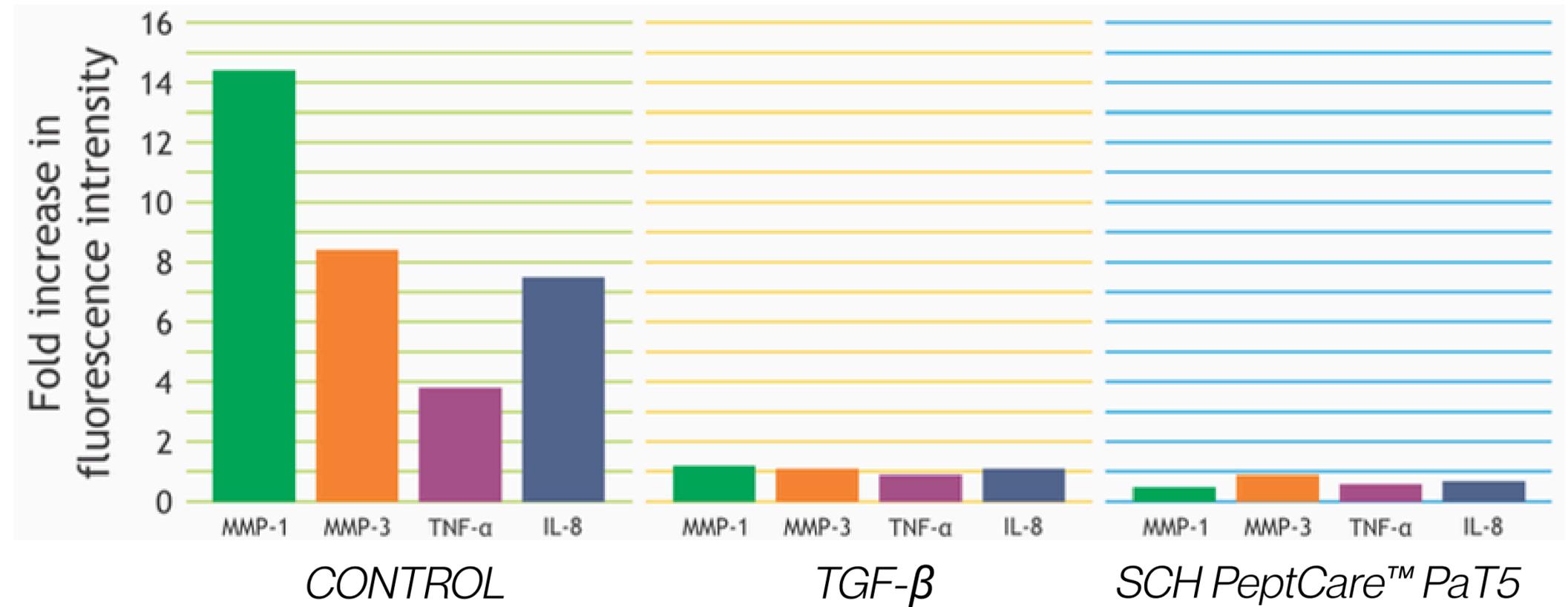
Collagen building capacity



Efficacy Studies

The **expression of cytokines and MMPs** after chemically induced (PMA) stress (24h) in normal human keratinocytes **diminishes.**

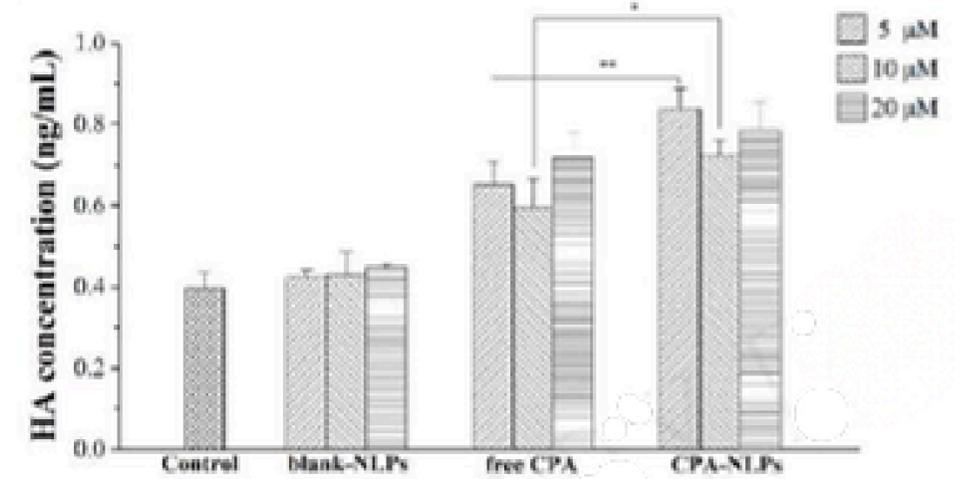
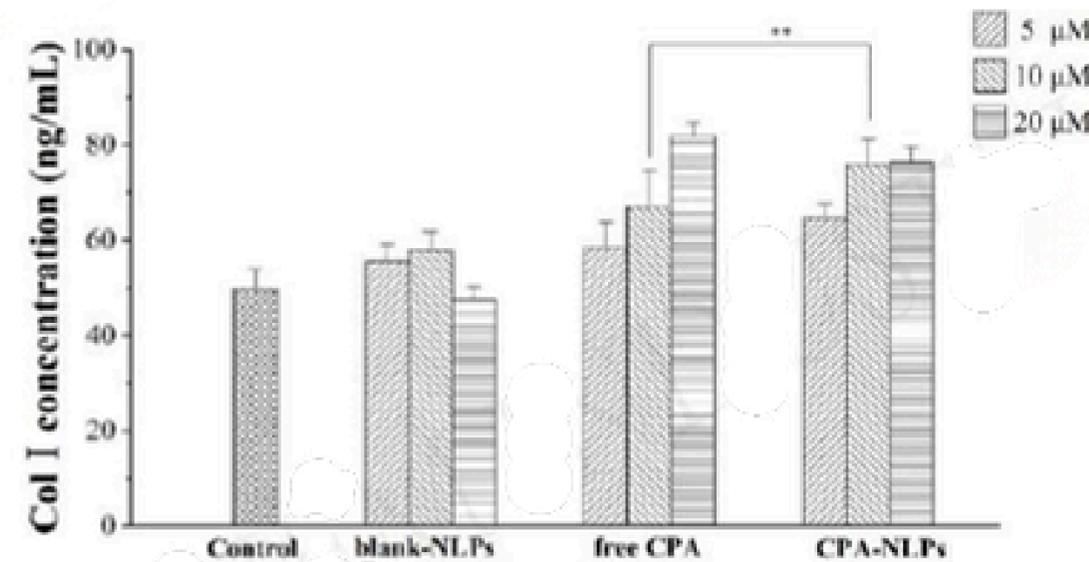
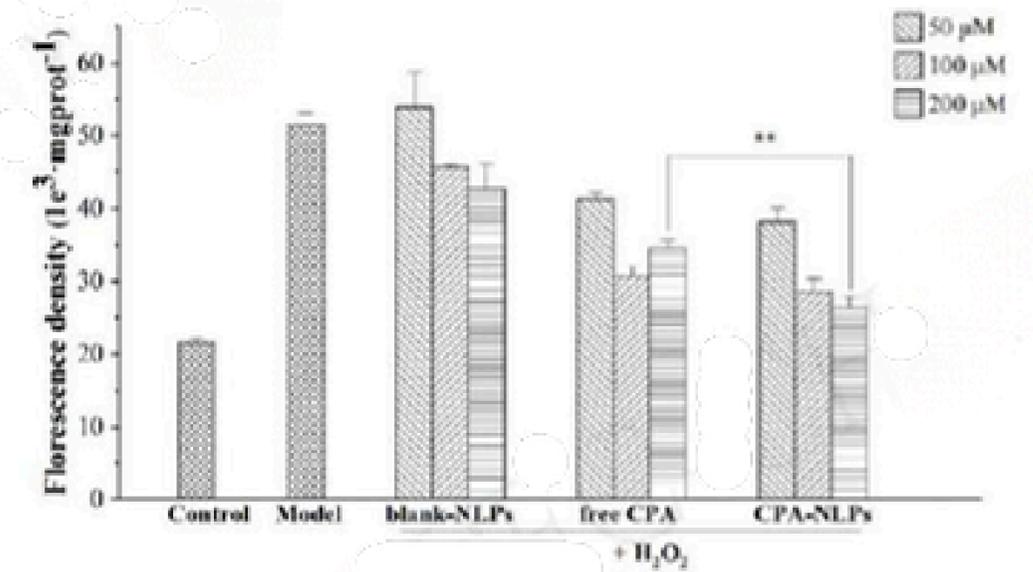
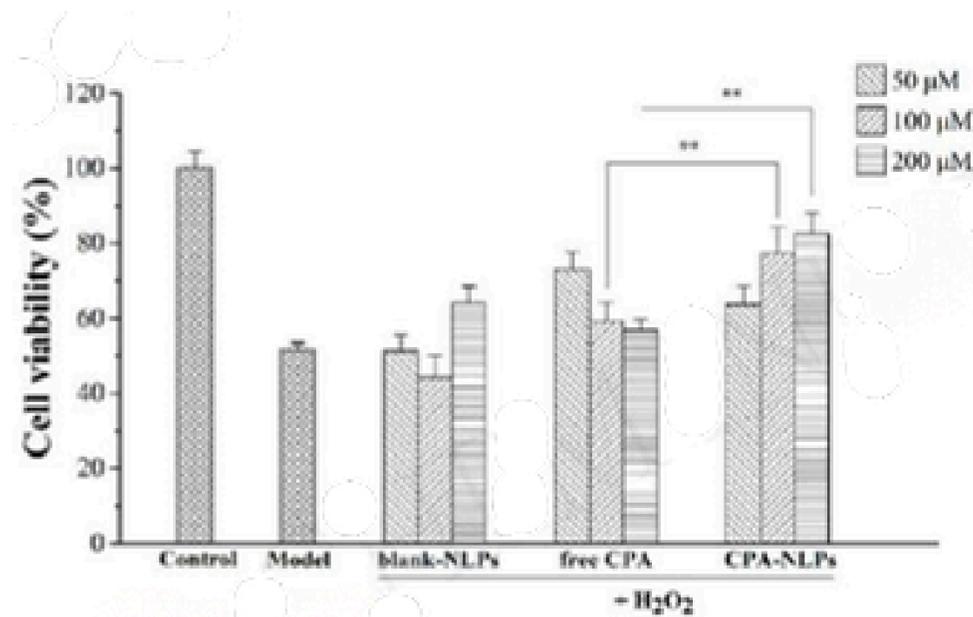
Effect on chemical stress



Efficacy Studies

In vitro data reports that Palmitoyl Tripeptide-5 can contribute to **reduced oxidative stress markers and increased collagen/HA-related readouts**, especially in synergistic systems with other actives like carnosine or other peptides.

Effect on collagen, HA and other biomarkers



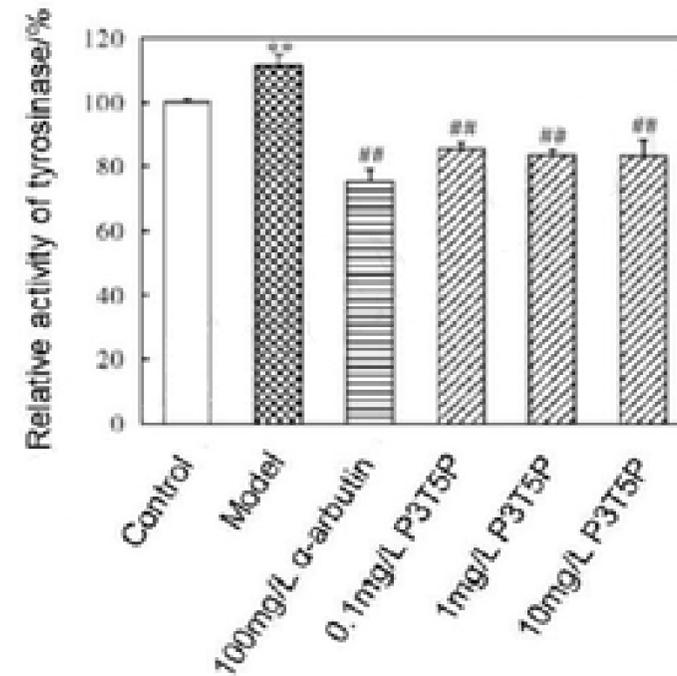
CPA-NLPs: Nano liposomes simultaneously loaded with carnosine, palmitoyl tripeptide-5 and acetyl hexapeptide-3 (CPA-NLPs)
 Free CPA: a solution with the same concentration of carnosine, palmitoyl tripeptide-5 and acetyl hexapeptide-3 as CPA-NLPs

Efficacy Studies

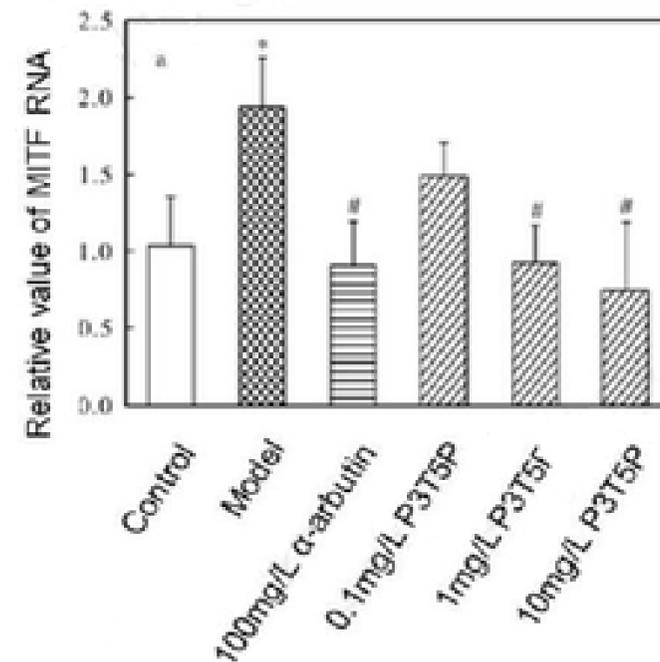
In vitro studies report that **Palmitoyl Tripeptide-5** can inhibit tyrosinase activity, reduce melanin-related readouts, and decrease MITF mRNA expression in melanocyte models.

Whitening effect

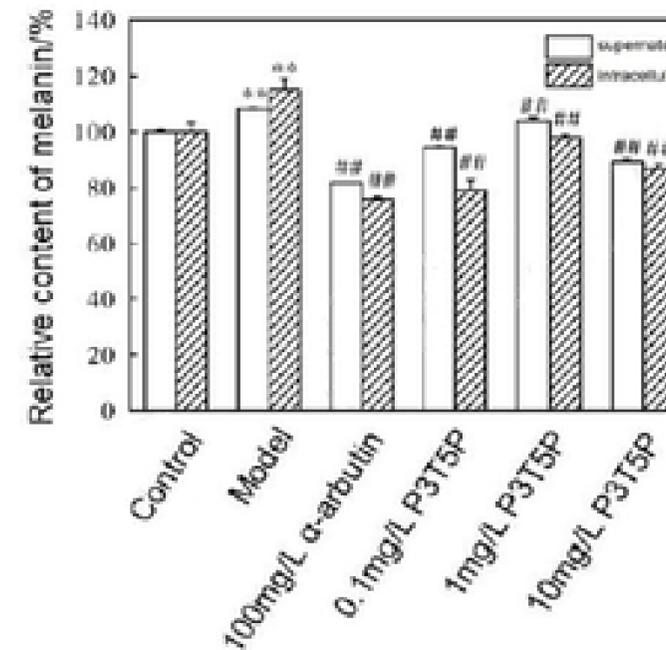
Effect of test samples on tyrosinase activity of B16 melanoma cell



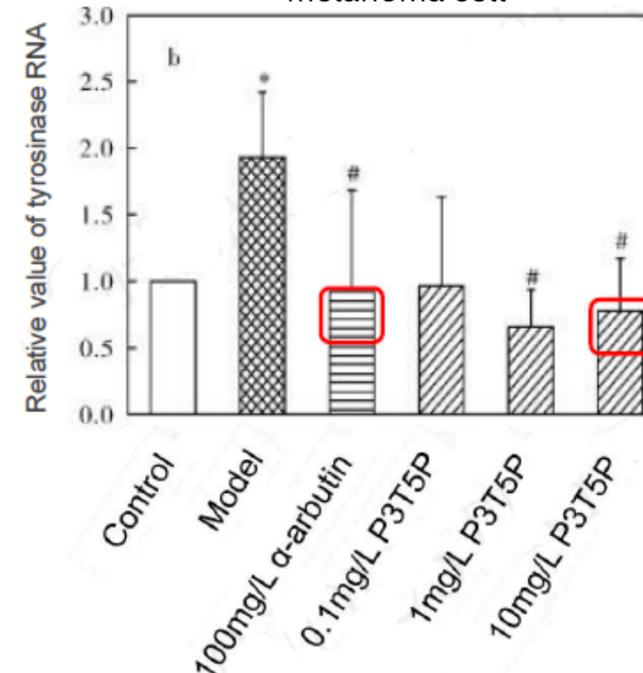
Effect of test samples on MITF in B16 melanoma cell



Effect of test samples on melanin content of B16 melanoma cell in cell and medium



Effect of test samples on mRNA level of tyrosinase in B16 melanoma cell



Treatment with 10 mg/L (about 0,001%) of palmitoyl tripeptide-5 can **reduce tyrosinase mRNA expression by 59,63%**, and the effect is better than 100 mg/L (about 0,01%) α-arbutin.

Treatment with 10 g/L (about 1%) α-arbutin and 30 mg/L (about 0,003%) palmitoyl tripeptide-5 for 3 weeks can **reduce melanin distribution area by 22,05% and 25,79%**.

Palmitoyl tripeptide-5 has better effect on improving pigmentation than α-arbutin.

P3T5P palmitoyl tripeptide-5

In vivo Test

Number: 45 volunteers aged 25-55

Test items: 4 weeks after applying cream containing or not containing 2% PaT5 solution (0,1%)

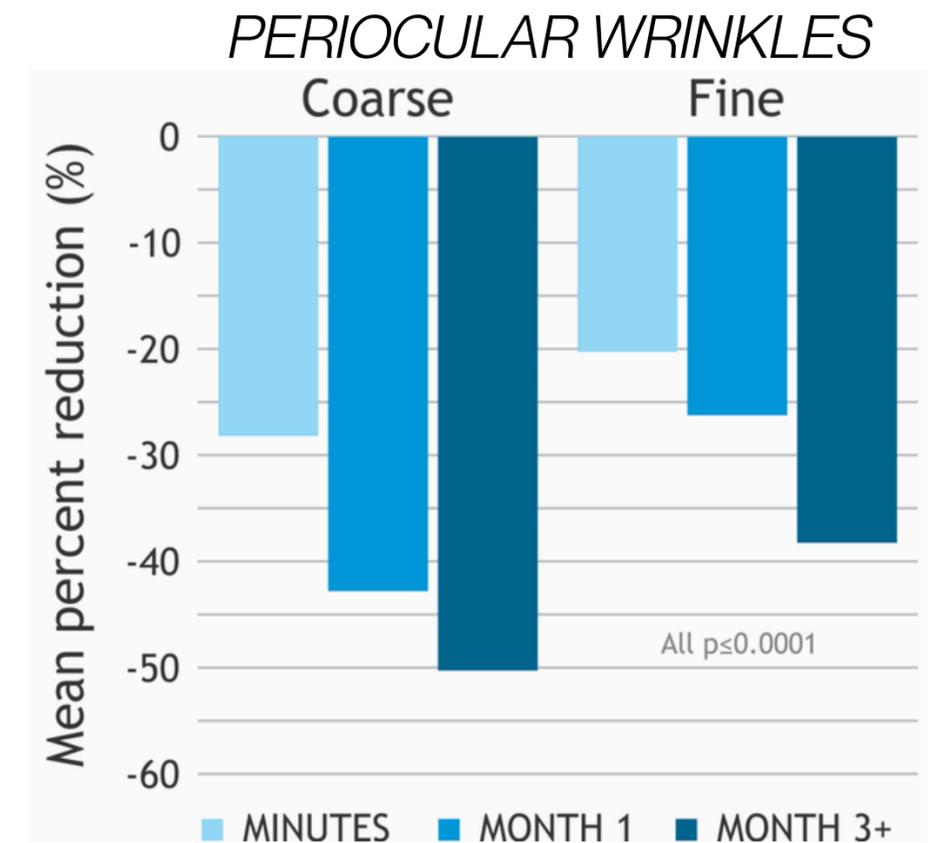
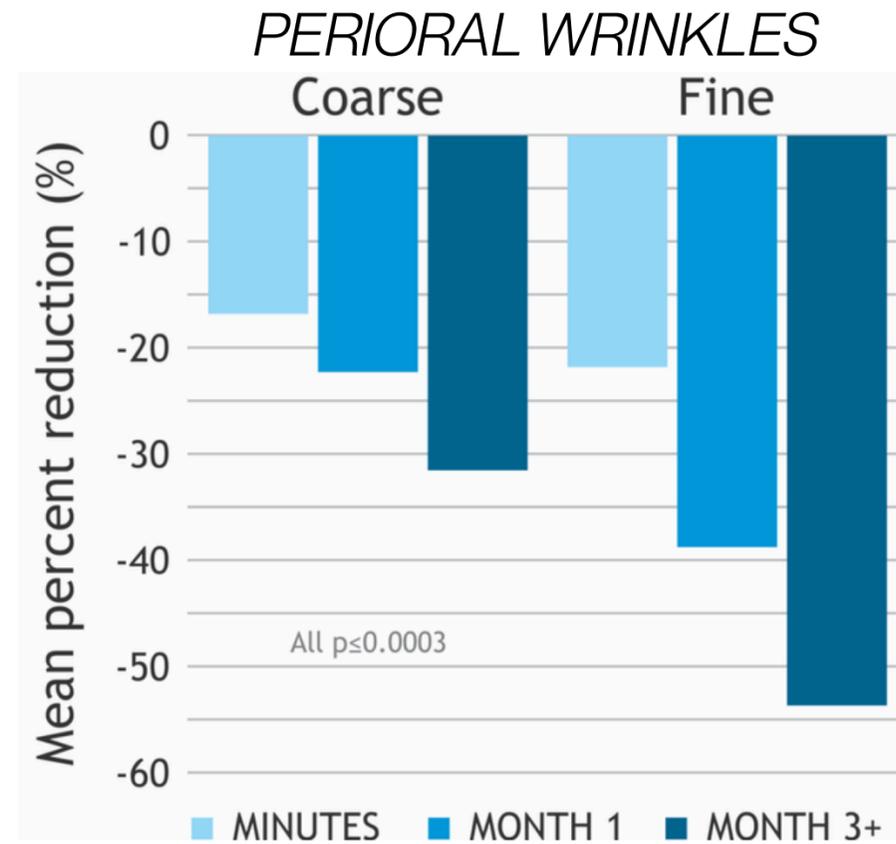
Result: SCH PeptCare™ PaT5 can effectively reduce wrinkle area and improve skin elasticity

Anti-wrinkle & Well-aging

Group	Changes in wrinkles following treatment (%)			Changes in skin elasticity following treatment (%)
	Volume	Area	Area ratio	Skin elasticity
Control	21,1	21,8	19,8	25,6
Free CPA	22,4	22,4	21,5	29,1
CPA-NLPs	25	29,4	30,8	36,6

In vivo Test

Effect on perioral and periorcular wrinkles 5% SCH PeptCare™ PaT5



Technical specifications

Available in powder and solution form

Recommended dosage: 3 - 5% (1g/L of peptide in solution)

Regulatory status:

Europe → ALLOWED

China → ALLOWED