

PENTAPHARM

SYN[®]-COLL

SYN[®]-COLL is based on a small peptide developed to reduce any type of wrinkles. Clinical trials have shown that SYN[®]-COLL is capable of reducing and changing the type and aspect of wrinkles that add years to your appearance. Try it and you will see the difference within a short time.

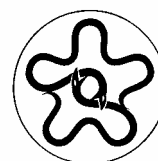
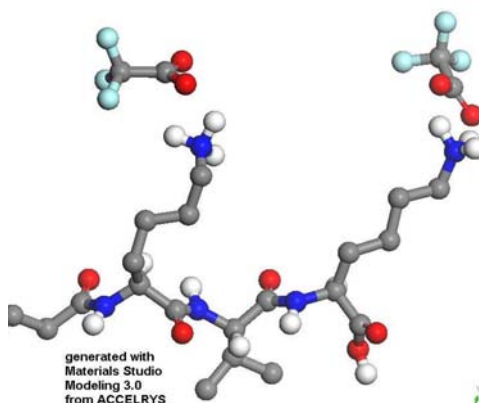
PRODUCT DESCRIPTION

The first signs of aging in the skin typically begin with superficial wrinkles. Therefore it is easily understandable that anti-wrinkle products play an important part as anti-aging products. Over the last few years peptides became an important part among the wrinkle-reducing products. SYN[®]-COLL is an aqueous, unpreserved, glycerine-based solution of a small peptide. It stimulates the collagen synthesis in human fibroblasts.

BACKGROUND

Skin aging and, in particular, chronic UV exposure lead to degenerative changes in skin characterized by distinct alterations in the composition of the dermal extracellular matrix (ECM). The consequences are manifold such as increased skin fragility, leathery skin appearance and formation of wrinkles. Collagen represents the main component of the ECM of the dermal connective tissue. Thrombospondin I (TSP) is a multifunctional protein that activates the latent but biologically inactive form of TGF- β (Tissue Growth Factor). TGF- β is known as the key element in the synthesis of collagen. TSP binds with the sequence Arg-Phe-Lys to the inactive TGF- β complex, inducing a release of active TGF- β . A molecule able to activate TGF- β would therefore be the ideal product as an effective wrinkle-repairing molecule to accelerate new collagen production. SYN[®]-COLL is a patented innovative approach that is based on Pentapharm's many years of experience in synthesizing peptides for the pharmaceutical industry. SYN[®]-COLL has a unique sequence to mimic the human body's own mechanism to produce collagen via TGF- β . SYN[®]-COLL actively compensates for any collagen deficit in the skin and makes the skin look younger.

SYN[®]-COLL molecule Chemical Structure



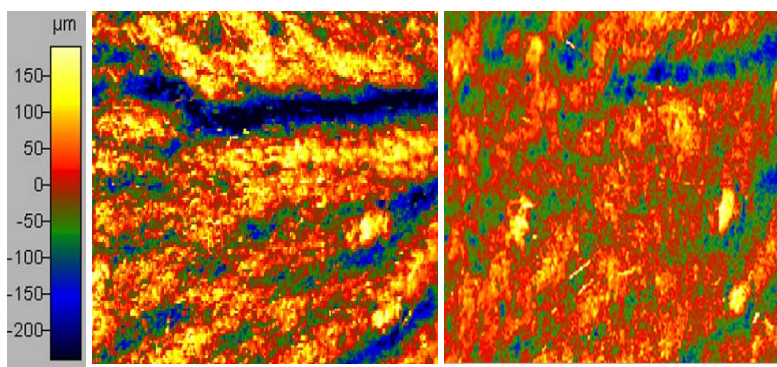
EFFICACY

ANTI WRINKLE EFFECT OF SYN[®]-COLL

The study was performed on 60 volunteers. SYN[®]-COLL has been compared against placebo and against a reference substance. Both products have been used at the recommended use level calculated for their active principle. The study lasted 84 days with a twice- daily application.

SIGNIFICANT DECREASE IN CUTANEOUS RELIEF

Using the PRIMOS[®] technique, parallel stripe patterns are projected on the sample with successive phase shift. The analysis of fringe deformations provided a qualitative as well as quantitative evaluation of each height profile.



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MACROPHOTOGRAPHS

Macrophotographs are done with a Nikon[®] D1 digital camera. The photographs are taken in standardized, indirect light.



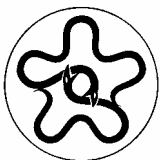
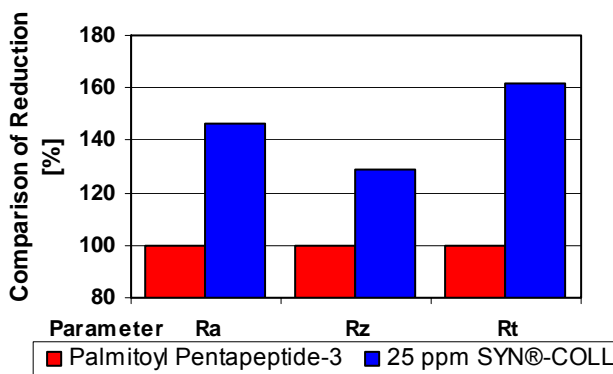
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After 84 days of twice-daily application of 2.5% SYN[®]-COLL parameters average relief (Rz) and maximum relief (Rt) **significantly decreased by -12%: -22 µm and -36 µm** respectively ($p= 0.05$) **characterizing smoothing and anti wrinkle effects.**

COMPARISON OF PRODUCT EFFICACY

Both products have been used at the recommended use level. SYN[®]-COLL at 2.5 % (25 ppm peptide) and the reference substance Palmitoyl Pentapeptide at 10 ppm (equivalent to a use level of 10 % of the market available product calculated for the active peptide). SYN[®]-COLL clearly showed a higher efficacy for all tested parameters.



Ra: average roughness
Rt: maximum difference between the highest peak and the deepest furrows
Rz: mean value of these different maxima

A decrease of the Ra expresses a smoothed relief.

A decrease of the Rt and Rz expresses a decrease of the wrinkles' depth.

ADDITIONAL INFORMATION

Moreover, according to the answers of the objective evaluation questionnaire, the majority of the volunteers have appreciated the products for their organoleptics characteristics (aspect, texture, facility of spreading and penetration). A majority have noticed freshness and moisturizing sensation after application. More than 60 % of all volunteers reported a general modification of the skin and an improvement of the crow's feet at the same time. 93 % of the volunteers will continue the use of a SYN[®]-COLL containing formula.

CONCLUSION

Clinical trials have shown that the active principle of SYN[®]-COLL is capable of reducing and changing the type and aspect of wrinkles that add years to your appearance. Try SYN[®]-COLL and you will see the difference within a short time.

TECHNICAL INFORMATION

PRODUCT SPECIFICATIONS

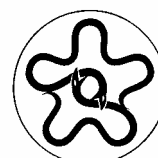
Appearance	:	colorless to slightly yellowish, clear liquid
Peptide content	:	900-1300 ppm
Relative density (20°C)	:	1.15-1.22
Refractive index (25°C)	:	1.410-1.440
Microbial count	:	< 100 CFU/ml
Specified pathogens	:	absent

PRESERVATION AND MICROBIOLOGY

SYN[®]-COLL contains no preservative. SYN[®]-COLL is free of specified pathogens. The amount of non-pathogenic microorganisms with less than 100 CFU per ml of SYN[®]-COLL meets the CTFA microbiology guidelines.

SAFETY AND ECOLOGY

Standard and well-defined safety testing has been performed on SYN[®]-COLL which has proved the product to be safe for cosmetic use. The data available do not indicate any environmental risks. The manufacturing process is designed to meet the criteria for the assessment of safety, health and protection of people and of the environment set out in the *Responsible Care Program*.



PROCESSING AND DOSAGE

SYN[®]-COLL could be processed either warm (for maximum 2 hours at 80°C) or cold. SYN[®]-COLL is stable in the pH-range of 3.0 to 7.0. In formulations, SYN[®]-COLL is compatible with ethanol at concentrations of up to 50%. For skin care preparations, we recommend the addition of 1 to 3% SYN[®]-COLL. Basic Guide Formulations are available upon request.

STORAGE AND SHELF LIFE

SYN[®]-COLL should be stored in the original sealed container protected from light in a clean place at a temperature between 15 and 25°C. If stored under the recommended conditions, SYN[®]-COLL remains stable for at least 1 year. In order to avoid secondary microbial contamination, following opening, the content of the containers should be used immediately since SYN[®]-COLL does not contain any preservative.

GENERAL PRODUCT INFORMATION

Trade Name	:	SYN [®] -COLL
Product Code	:	800421
INCI Name (CTFA)	:	Palmitoyl Tripeptide-5, Glycerine
EU-Labeling Name	:	Not listed
Chemical Name	:	Palmitoyl-lysyl-valyl-lysine bistrifluoroacetate salt
CAS No	:	623172-56-5
Customs Tariff No	:	3824.9098 999
Shelf life	:	at least 1 year

COMPOSITION

A) Ingredient(s)	INCI Name #	Amount *
As listed in the CTFA Dictionary	Palmitoyl Tripeptide-5	F

B) Additives	INCI Name #	Amount *
Solvents	Water	C
	Glycerine	A
Preservative	None	---
Others (buffers, antioxidants, colorants)	None	---

CTFA Dictionary

* FDA-Code (A = > 50%, B = 25-50%, C = 10-25%, D = 5-10%, E = 1-5%, F = 0.1-1%, G = < 0.1%)

REMARK

Although these data and information have been prepared with the utmost possible care, we reserve the right to make changes due to product improvement and other considerations.

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