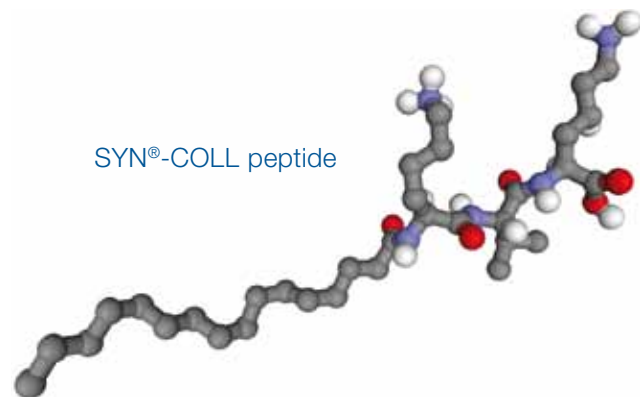




BOOST AND PROTECT COLLAGEN TO IRON OUT WRINKLES

SYN®-COLL is an innovative anti-wrinkle approach that comprises the boosting of the collagen production as well as collagen protection from degrading enzymes. Both activities work synergistically to achieve a maximal anti-wrinkle effect.

This scientific breakthrough is based on DSM's many years of experience in synthesizing peptides for the pharmaceutical industry. SYN®-COLL is a small tripeptide with a unique sequence to mimic the human body's own mechanism to produce collagen via TGF- β .

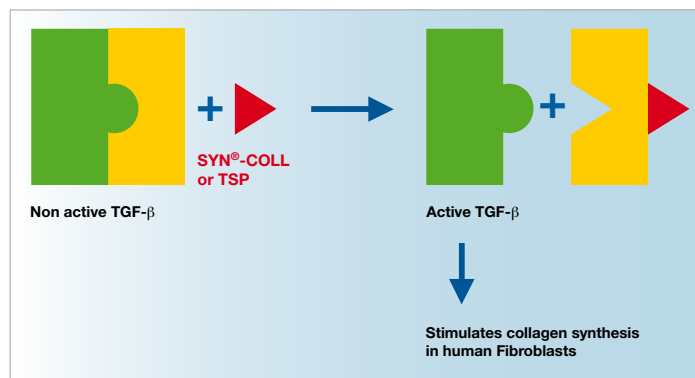


SYN®-COLL also protects collagen from degradation. This safeguarding is achieved by inhibition of the expression of matrix metalloproteinases (MMP 1 and 3) and of proinflammatory cytokines. MMP 1 is one of the key enzymes in collagen degradation.

Compared to other anti-aging peptides on the market, SYN®-COLL gets better results *in vivo* and has a much higher cost effectiveness.

Mechanism

Collagen represents the main component of the ECM (extracellular Matrix) 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 and binds to a particular sequence in the TSP molecule to be activated. SYN®-COLL's sequence has the capacity to bind by mimicking the sequence and therefore also activates TGF- β .



This innovative mechanism made SYN®-COLL the first TGF- β booster on the market; a safe and painless alternative to collagen injections.

Comprehensive clinical tests show strong effects on all types of age related wrinkles and confirmed its safety for cosmetic use.

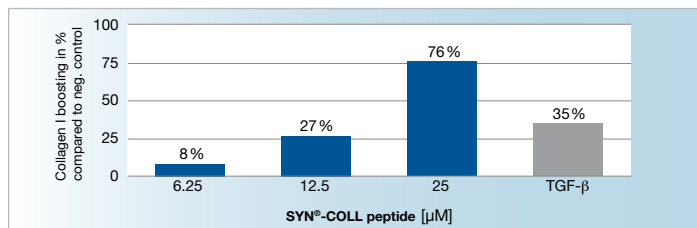
Literature:

J.E. Murphy-Ullrich, M. Poczatek, Cytokine & Growth Factor Reviews, 11, 2000, 59-69.

EFFICACY TESTS

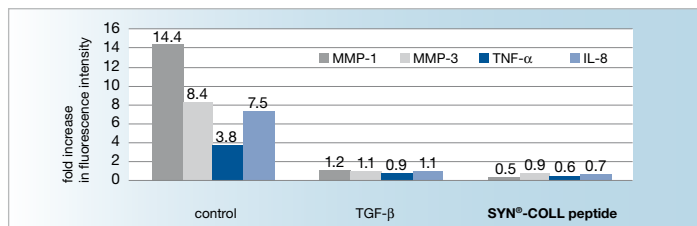
In vitro

Stimulation of collagen I synthesis in human fibroblasts compared to a negativ control. TGF- β (0.4 nM) was used as a positive control.



SYN[®]-COLL peptide shows a strong boosting effect on collagen synthesis in a dose-dependent manner.

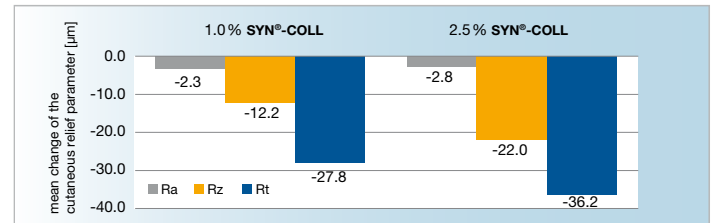
The expression of cytokines and MMPs after chemically-induced (PMA) stress (24 h) in normal human keratinocytes (NHK). The fold increase in fluorescence intensity is compared to control cells (=1.00).



These effects of SYN[®]-COLL peptide *in vitro* resemble that of the tissue growth factor TGF- β .

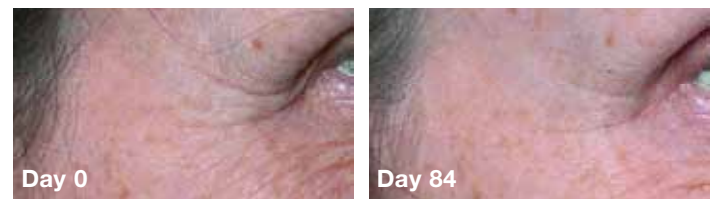
In vivo

To prove the anti-wrinkle effect of SYN[®]-COLL, a study with 60 healthy volunteers has been performed. Two formulations of SYN[®]-COLL (1% and 2.5%) have been applied twice daily for 84 days. Wrinkle parameters have been measured by Primos[®] technique.



All values given in μ m on day 84 compared to day 0. SYN[®]-COLL shows a strong effect for all parameters, (Ra: Average roughness, Rz: Mean of 5 consequent regions, Rt: Maximum difference).

Photos document the visible improvements at day 84 with 2.5% SYN-COLL (volunteer #18, DermScan).



Function

- SYN[®]-COLL stimulates collagen synthesis to actively remove any type of age related wrinkles. In addition it has skin-firming and moisturizing properties.
- Collagen degradation is reduced by expression inhibition of MMPs and cytokines.
- SYN[®]-COLL has been clinically proven to be safe and effective.

Cosmetic application

- SYN[®]-COLL is a bioactive ingredient that reduces the appearance of wrinkles.
- It can be used in any type of anti-ageing products and is suitable for every aspect of wrinkle reduction.
- SYN[®]-COLL has a superior cost-effectiveness compared to similar competitors' products.

Suggested concentration

1–3% SYN[®]-COLL

Formulation

SYN[®]-COLL is a clear preservative-free aqueous solution that can easily be incorporated into the aqueous phase of a formulation.

INCI name

Glycerin, Aqua, Palmitoyl Tripeptide-5

Copyright © 2009 DSM Nutritional Products AG, CH-4002 Basel, Switzerland. All rights reserved. No part of this brochure may be reproduced, distributed or translated in any form or by any means, or stored in a database or retrieval system, without the prior written permission of DSM Nutritional Products AG ("DSM"). While making reasonable efforts to ensure that all information in this brochure is accurate and up to date, DSM makes no representation or warranty of the accuracy, reliability, or completeness of the information. Use of this information shall be at your discretion and risk. Nothing herein relieves you from carrying out your own suitability determinations and tests and from your obligation to comply with all applicable laws and regulations and to observe all third-party rights. The uses and claims for DSM's products recommended in the brochure should be adapted to the current local regulatory environment. We disclaim any and all liability in connection with your product or its use.

DSM Nutritional Products Ltd.
P.O. Box 2676
CH-4002 Basel, Switzerland
Phone: +41 61 815 88 88
Fax: +41 61 815 88 80
info.dnp@dsm.com
www.dsmnutritionalproducts.com