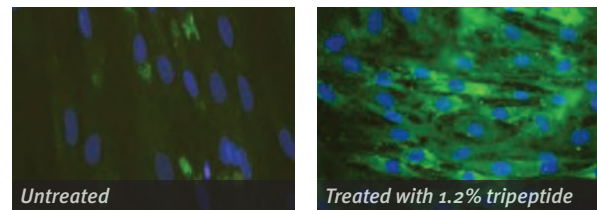
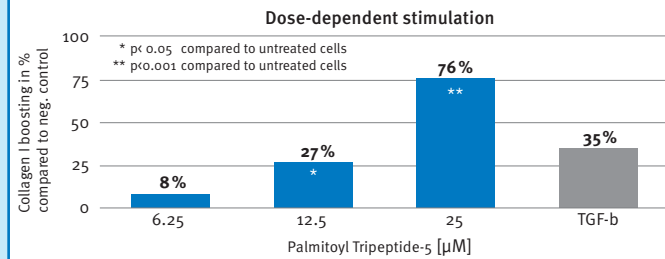


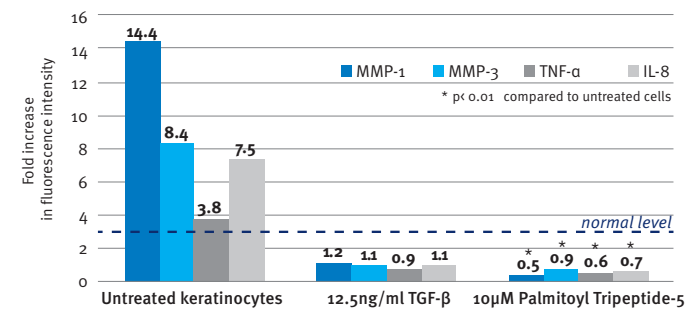
## Results

### *In vitro*, dual action of palmitoyl tripeptide-5 on the collagen\*

**Minimize the factors involved in the appearance of aging skin!**



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



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 untreated keratinocytes cells (=1.00).

\* DSM internal report

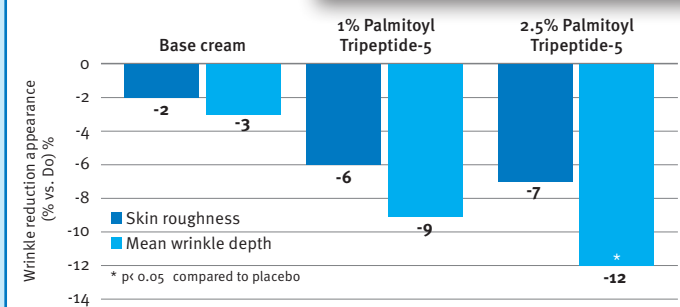
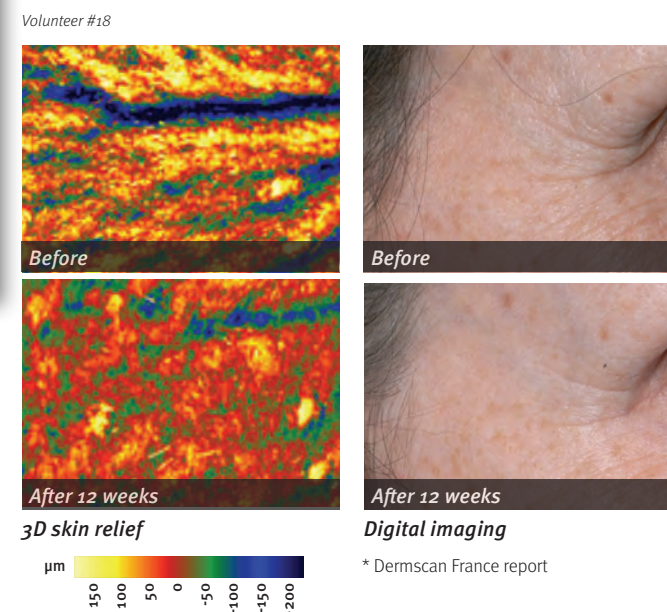
### *In vivo* on Caucasian skin

**SYN®-COLL Minimize the factors involved in the appearance of aging skin**

A study with 45 healthy volunteers (15 per group) has been performed. Two formulations of SYN®-COLL (1% and 2.5%) and a base cream were applied twice daily for 84 days. Wrinkle parameters have been measured by the Primos® technique.



3D skin relief, skin topography indicated by different colours using Primos® technique. Use level: 2.5% SYN®-COLL.



#### North America

DSM Nutritional Products, LLC  
45 Waterview Boulevard, Parsippany, NJ 07054  
United States of America  
Phone: +1 800 526 0189  
Fax: +1 973 257 8580  
Email: info.pc-na@dsm.com

#### Europe

DSM Nutritional Products Europe Ltd.  
P.O. Box 2676, 4002 Basel  
Switzerland  
Phone: +41 61 815 7777  
Fax: +41 61 815 7860  
Email: info.pc-emea@dsm.com

#### Asia Pacific

DSM Nutritional Products Asia Pacific  
30 Pasir Panjang Road  
Mapletree Business City #13-31  
Singapore 117440  
Phone: +65 6632 6500  
Fax: +65 6632 6600

#### Latin America

DSM Produtos Nutricionais Brasil Ltda.  
Av. Engº Billings, 1729 Prédio 31  
Jaguarié – São Paulo – SP – Brasil 05321-010  
Phone: +55 11 3760 6409  
Fax: +55 11 3760 6492  
Email: info.pc-latam@dsm.com

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P0022



HEALTH · NUTRITION · MATERIALS





**NEW**  
CLINICAL STUDIES  
ON ASIAN SKIN

## Revealing the Power of Chinese Women

DSM recently explored the beauty aspirations of Chinese women and their attitudes toward aging. Our research indicated a strong contrast in women's perceived aging signs to those in the western world and additional influences from the environment. Recent scientific publications revealed that Asian skin ages similarly but later than Caucasian skin\*.

This indicated a need to tailor the existing SYN®-COLL peptide to the precise needs of Chinese consumers regarding appearance – beyond the treatment of lines and wrinkles.

Taking this as a starting-point, a new *in vivo* study was conducted by DSM on Chinese volunteers. It revealed a reduction in the appearance of lines and wrinkles.

These results – achieved in just one month – are statistically better than a competitive benchmark\*. SYN®-COLL also helps reveal a more lifted, sculpted look, and refined pore appearance for smoother, younger-looking skin.

### Key facts

#### Unique product features

- SYN®-COLL is a small tripeptide (Palmitoyl Tripeptide-5) with a unique sequence
- SYN®-COLL gets better results *in vivo* with superior cost-effectiveness
- Enhanced ethnic anti-aging look
- Glycerin-based aqueous solution

#### Benefits

- Visibly reduces appearance of wrinkles in age-prone zones
- Minimize the factors involved in the appearance of aging skin
- Rejuvenates and smoothens the skin's appearance
- Refines pore appearance
- Improves the look of skin firmness and elasticity
- Improves the appearance of skin texture

#### Cosmetic applications

- Any type of anti-aging cosmetic formula age-prone zones to reduce the appearance of wrinkles and fine lines
- May help products to improve the look of facial contour
- Cosmetic formulations targeting the appearance of pore size reduction
- Suitable for facial and body care

#### Suggested concentration

1–3% SYN®-COLL

#### INCI name (active)

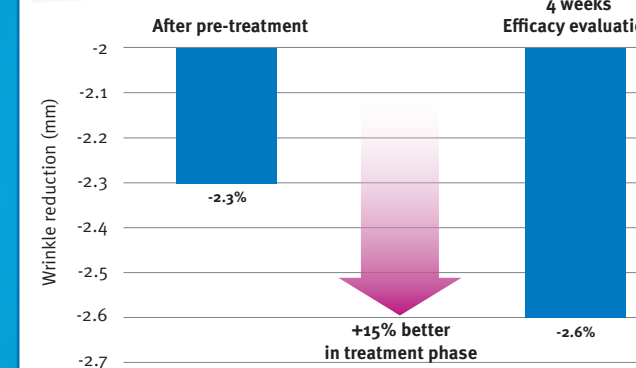
Palmitoyl Tripeptide-5

### SYN®-COLL efficacy study *in vivo* vs. a competitive benchmark\*

Institute Dr. Schrader report

To measure SYN®-COLL's efficacy vs. a competitive benchmark, an eight-week, split-face, randomized study was conducted amongst 31 female Chinese volunteers with an average age of 46. A moisturizer containing 2.5% of active ingredient was applied twice daily. Wrinkle appearance evaluation was measured by the FOITS technique.

**SYN®-COLL significantly out-performs a competitive benchmark!\***



Skin aging: A comparison between Chinese and European populations. A pilot study. S. Nouveau-Richart et al, Journal of dermatological science (2005) 40, 187–193

\* Competitive benchmark: palmitoyl oligopeptide & palmitoyl-tetrapeptide-7

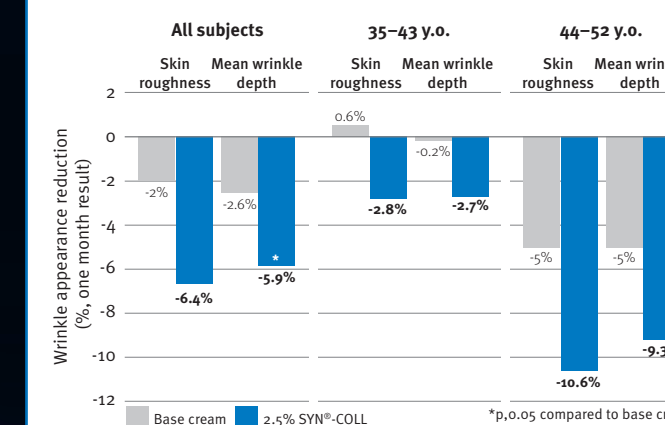
### SYN®-COLL clinical study *in vivo* vs. base cream

SYN®-COLL efficacy was evaluated in an eight-week, split-face, vehicle-controlled, randomized study conducted among 33 female Chinese volunteers with an average age of 43. 2.5% SYN®-COLL containing moisturizer was applied twice daily. Results evaluations were performed by the FOITS and Cutometer® techniques; pictures taken by VISIA CR.

#### FAST ACTION

**SYN®-COLL significantly helps to reverse the appearance of photo-aging – better results for those in older age groups!**

Institute Dr. Schrader report

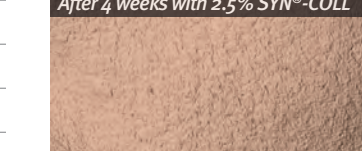


Volunteer #18, 47 years old

After pre-treatment



After 4 weeks with 2.5% SYN®-COLL



FOITS reconstructed 3D Skin relief – cheek area

Volunteer #28, 47 years old

After pre-treatment



After 4 weeks with 2.5% SYN®-COLL

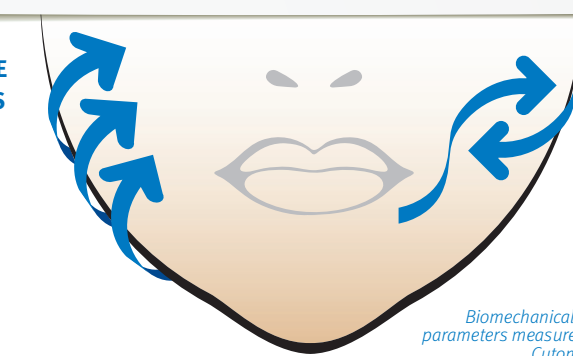


VISIA CR Digital imaging analysis – eye area

#### SYN®-COLL

helps reveal a more firmed, sculptured look!

NOTABLE IMPROVEMENTS IN THE APPEARANCE OF SKIN FIRMNESS improvement in just 4 weeks



NOTABLE IMPROVEMENTS IN THE APPEARANCE OF SKIN ELASTICITY improvement in just 4 weeks

**RESULTS: 77%**



of *in-vivo* study participants felt the formula with SYN®-COLL visibly improved the firmness of their skin.

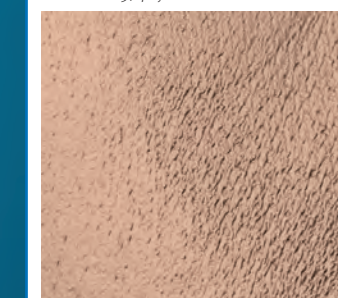
Biomechanical skin parameters measured by Cutometer

#### SYN®-COLL Vs. PORE VISIBILITY

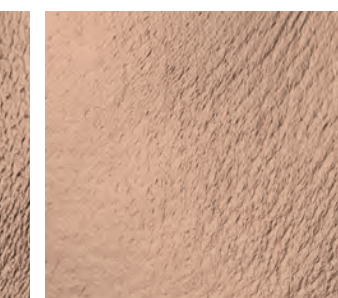
60% of volunteers noticed a reduction in the look of pore size in just 4 weeks!

(volunteers self-assessment)

Volunteer #19, 46 years old



After pre-treatment



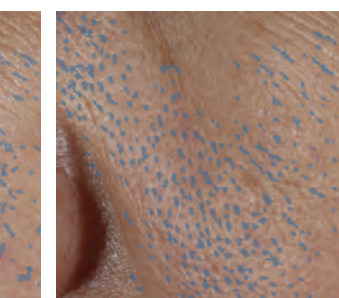
After 4 weeks with 2.5% SYN®-COLL

3D skin relief, graphically reconstructed from the FOITS data on the cheek area

Volunteer #28, 47 years old



After pre-treatment



After 4 weeks with 2.5% SYN®-COLL

VISIA CR Digital imaging, pore area highlighted