

# NEXT GENERATION PEPTIDES

## SCH HAIR GROW PEPT

Developments of new cutting-edge peptide-based drugs and molecules with pharmacological, diagnostic and cosmetic interest.

# SCH HAIR GROW PEPT

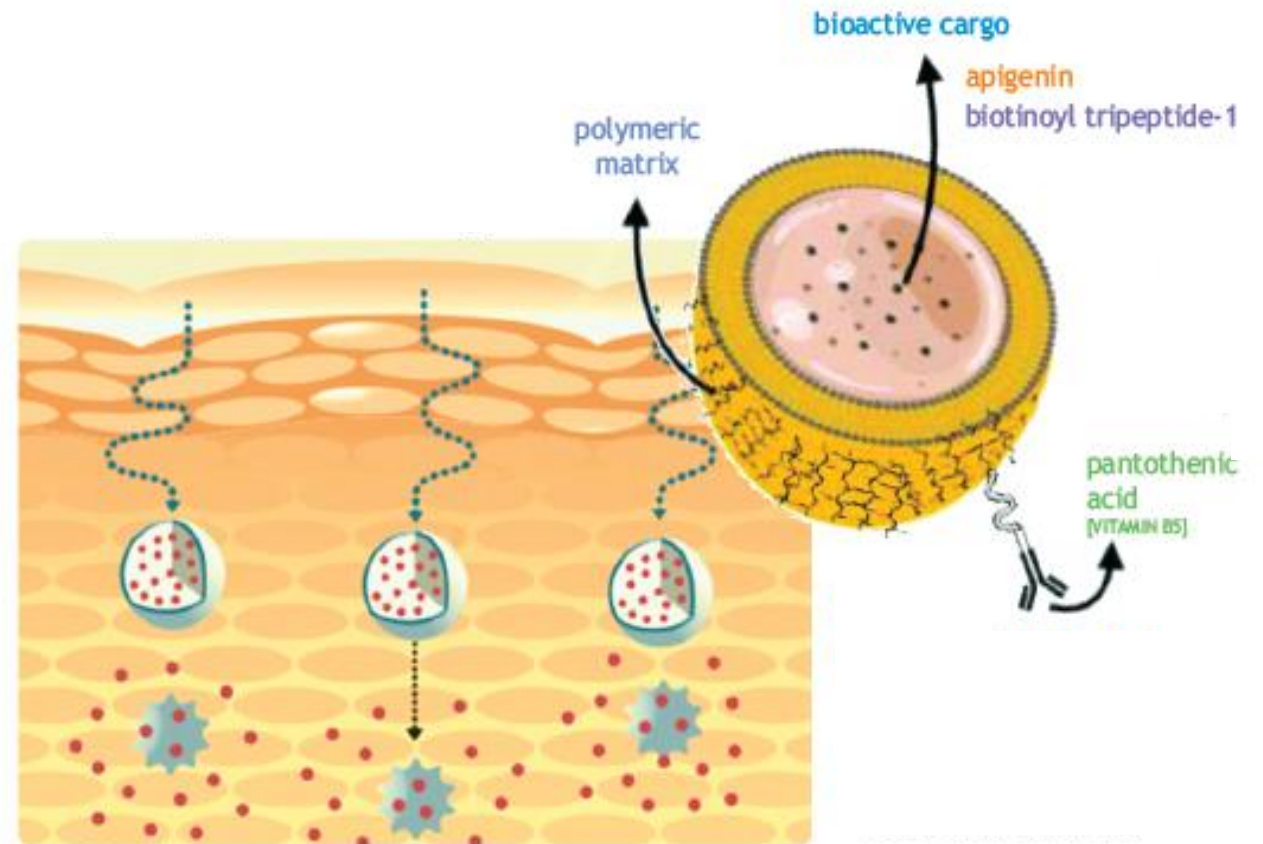
## Designed Capsules

Polycaprolactone capsules assure:

- High bioavailability
- Deep skin delivery

### COMPOSITION:

Biotinoyl tripeptide-1  
Apigenin  
Pantothenic acid



## BIOTINOYL TRIPEPTIDE-1

- ❁ Slows aging effects by lessening the production of dihydrotestosterone (DHT) to improve the irrigation of the hair follicle.
- ❁ It increases hair growth and enhances adhesion molecules to stimulate hair strengthening genes.
- ❁ It promotes hair bulb keratinocyte proliferation and ensures optimal hair anchorage by stimulating the synthesis and organisation of the adhesion molecules laminin 5 and collagen IV.



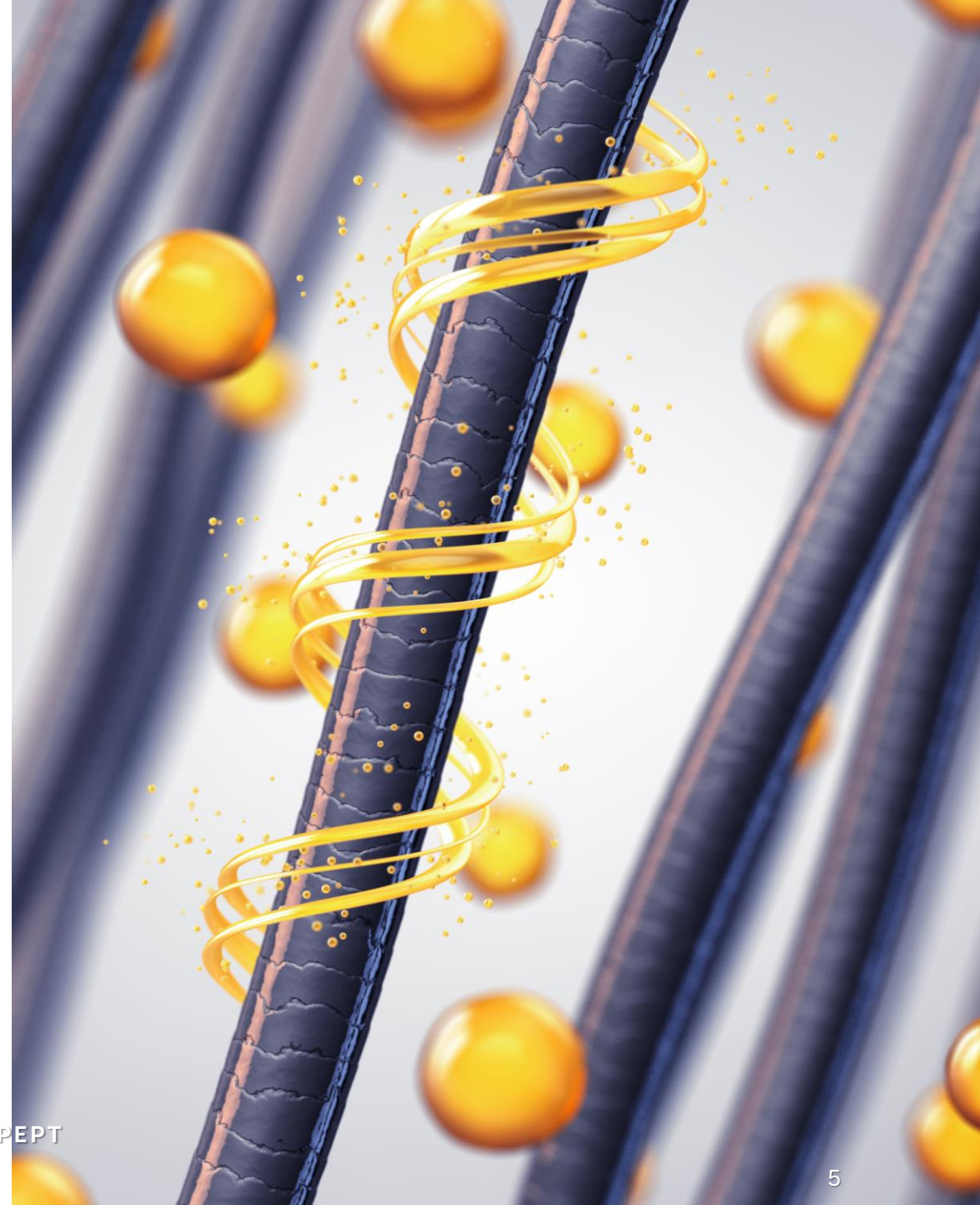


## APIGENIN

- ❁ Apigenin is a bioflavonoid found in many fruits and vegetables, such as parsley, onions, oranges and chamomile. This flavonoid acts as an antioxidant.
- ❁ Multiple clinical studies suggest that apigenin, known to possess antioxidant, anti-inflammatory, and anti-tumor properties, can stimulate hair growth.
- ❁ Androgen-inducible transforming growth factor  $\beta$ , found in dermal papilla cells, gives the signal for hair follicles to terminate the anagen growth phase and move into the catagen transitional phase.
- ❁ Human epidermal keratinocytes treated with apigenin showed decreased levels of TGF- $\beta$ 1 expression, thus increased proliferation of both the papilla cells and the keratinocytes.

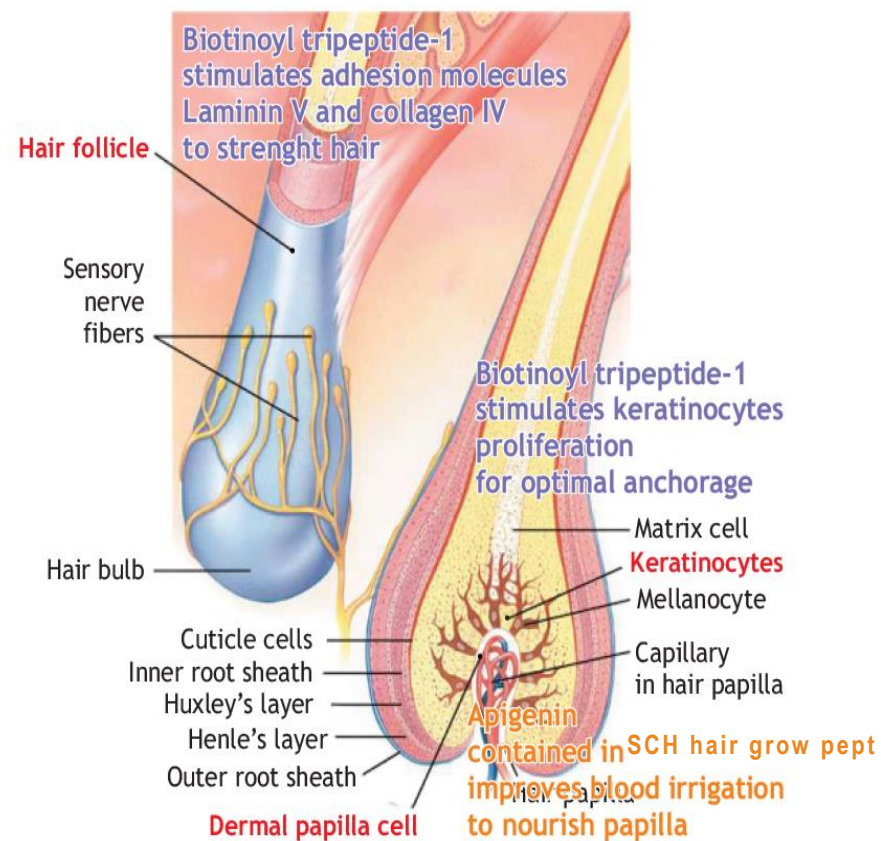
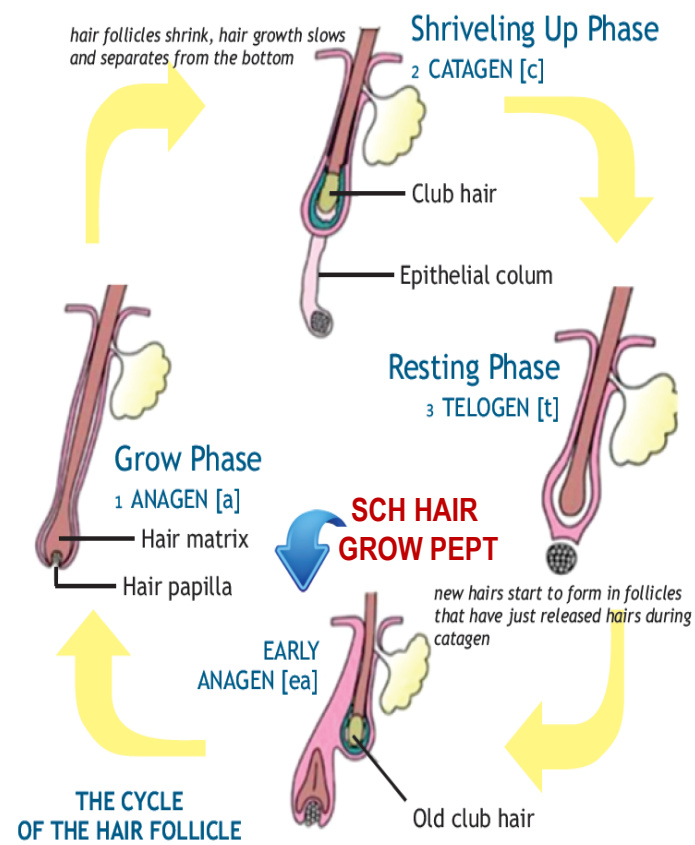
## PANTOTHENIC ACID

- ❖ Pantothenic acid, or vitamin B5, is an essential part of a healthy diet. A deficiency of this vitamin can harm your hair follicles, which may weaken them and lead to hair loss.
- ❖ Pantothenic acid is often taken in conjunction with the other members of the B vitamin family, and maintaining adequate levels of these can improve the health of your hair and help prevent it from thinning.



# SCH HAIR GROW PEPT

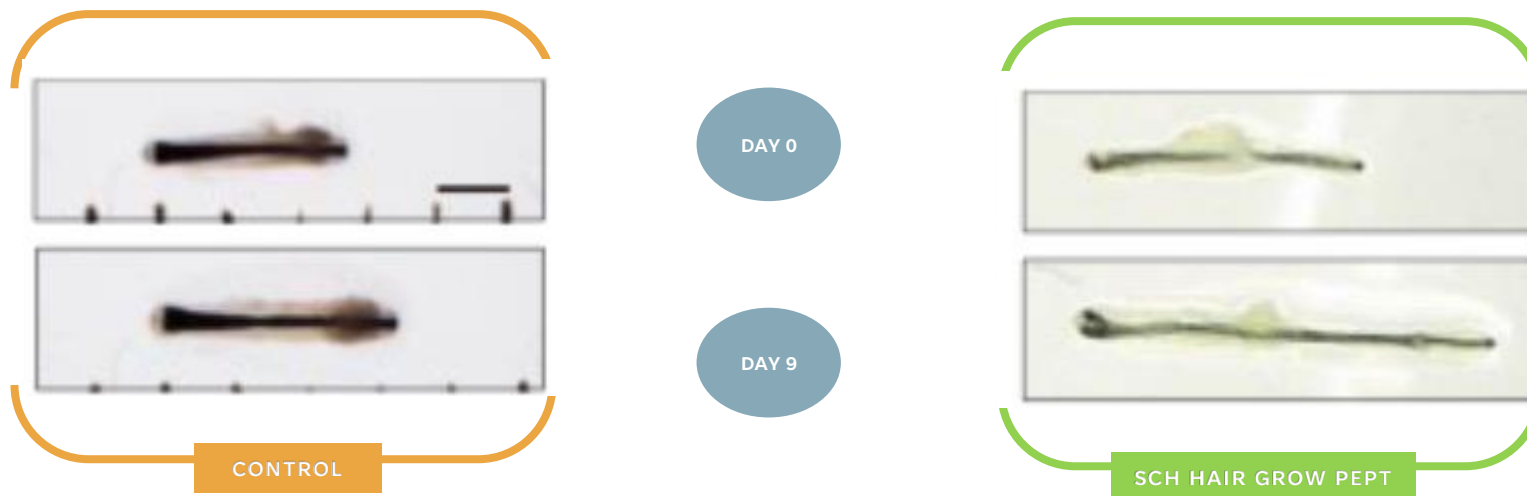
## MECHANISM OF ACTION





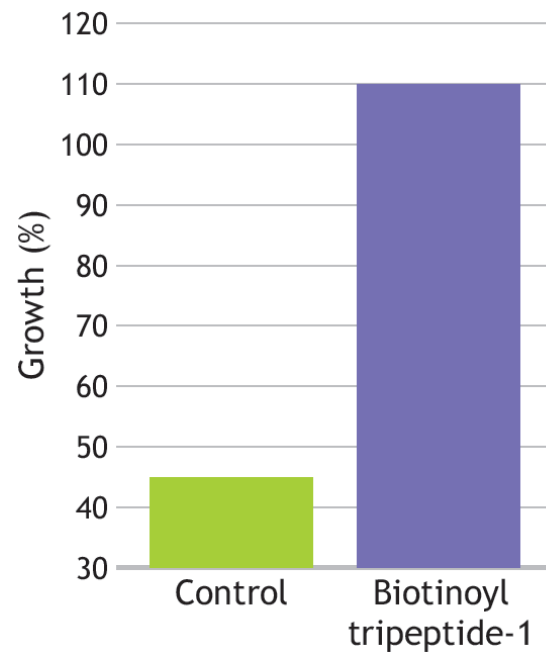
# CHANGES IN HAIR SHAFT LENGTHS OVER TIME

To assess the role of SCH HAIR GROW PEPT on anagen hair follicles, lower anagen hair follicles micro-dissected from healthy human scalps were cultured with SCH HAIR GROW PEPT for 9 days.



**SCH HAIR GROW PEPT SIGNIFICANTLY INCREASED HAIR  
ELONGATION RELATIVE TO UNTREATED CONTROL FOLLICLES**

# HAIR SHAFT GROWTH [QUANTITATIVE DATA]

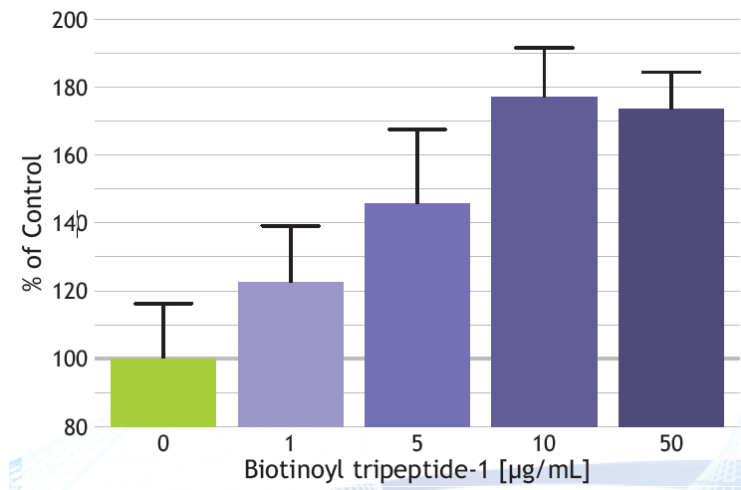


Hair shaft growth measured after 9 days application of 5ppm of Biotinoyl tripeptide-1, in vitro assay





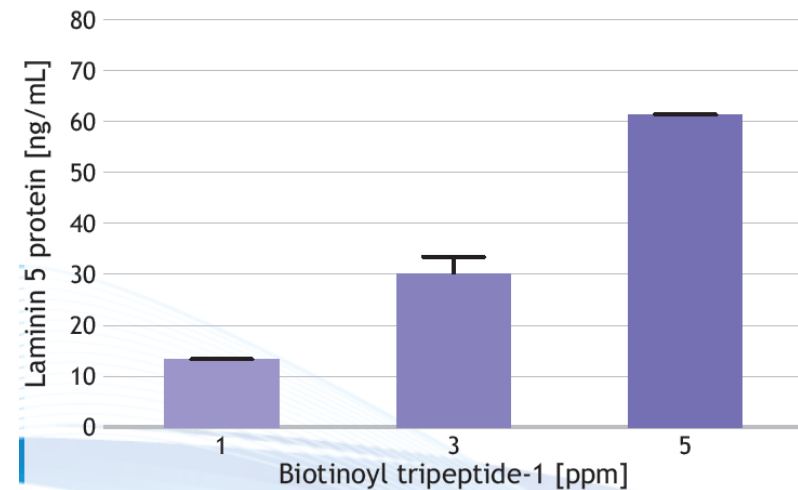
## BIOTINOYL TRIPEPTIDE-1 STIMULATES KERATINOCYTE PROLIFERATION



### HAIR BULB KERATINOCYTE PROLIFERATION ENSURES OPTIMAL HAIR ANCHORAGE

Biotinoyl tripeptide-1 induced keratinocyte proliferation rate. Various concentrations of peptide were applied to HaCaT cells cultured for 24 hours in serum-free medium and checked the cell proliferation rate using MTT

## BIOTINOYL TRIPEPTIDE-1 STIMULATES LAMININ 5 EXPRESSION IN HUMAN KERATINOCYTES



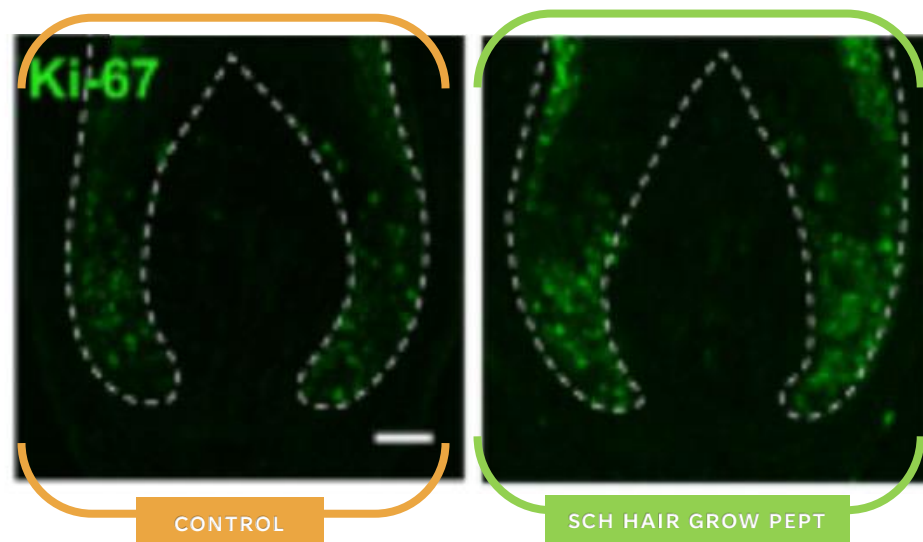
### SCH HAIR GROW PEPT BY STIMULATING LAMININ 5 HELPS TO STRENGTH HAIR

Human keratinocytes were cultured for 24 hours in a mixture of Dulbecco's modified Eagle's medium with SCH HAIR GROW PEPT. Laminin 5 protein secreted into the medium was measured by means of an ELISA kit.

# EFFICACY OF SCH HAIR GROW PEPT

## IN VIVO STUDY

Immunofluorescence staining for fibroblasts using Ki-67 antibody [GREEN] performed after incubation of hair follicles with 1 $\mu$ M SCH HAIR GROW PEPT for 3 days

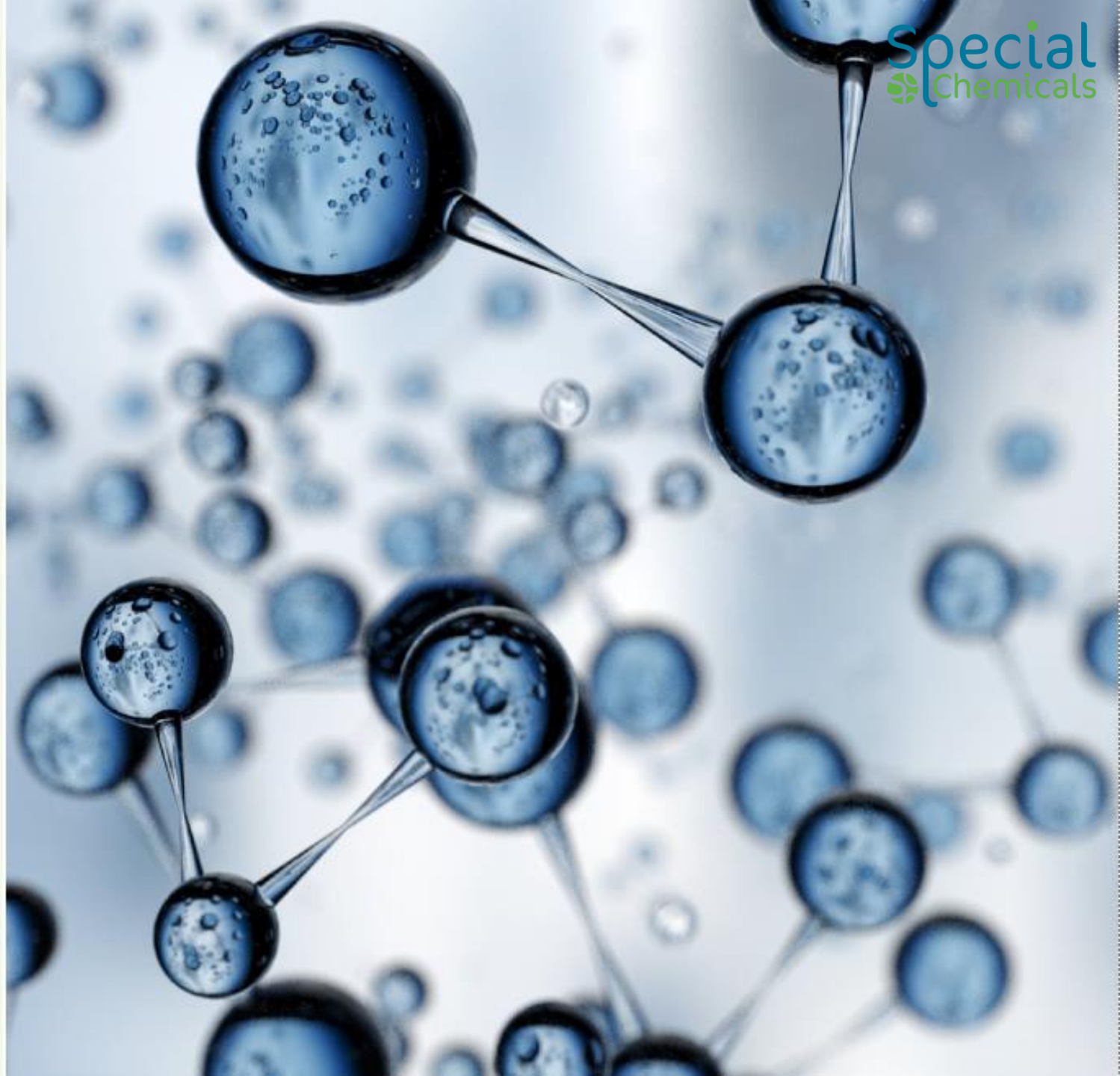


**In vivo study** on 20 panellist after 5ppm twice daily 5% SCH HAIR GROW PEPT solution



## SPECIFICATIONS

- Appearance: Aqueous Solution
- INCI.: Water, polycaprolactone, biotinoyl tripeptide-1, apigenin, pantothenic acid, polyvinyl alcohol, sorbitan stearate
- Additives: xanthan gum, phenoxyethanol
- Recommended dose: 3-5%
- Legal status: EU|US|CN|JP|KR|AUS





# THANK YOU

*Thank you for your interesting and attention!  
If you need sample and technical data, please  
contact us without hesitation*

Special  
Chemicals

