

C-Pep™

Reversing the Signs
of Aging

Anti-Aging Actives : Palmitoyl Peptides



C-Pep™

INCI Declaration

- Palmitoyl Dipeptide-10
- Palmitoyl Tripeptide-1
- Palmitoyl Tetrapeptide-7
- Palmitoyl Pentapeptide-4
- Palmitoyl Hexapeptide-12

Benefits

- DNA protection
- Collagen boosting
- Anti-glycation
- Anti-inflammation
- Fibroblast proliferation
- Anti-photoaging
- Anti-stress

Applications

- Anti-aging products
- Eye contour products
- Lip care products
- Firming masks
- Color cosmetics
- Anti-stretch mark products

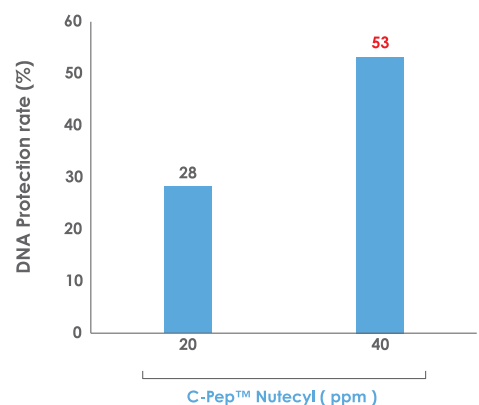
C-Pep™ is the range of Corum anti-aging peptides which are synthesized from pharmaceutical grade amino acids. They are conjugated with palmitic acid, the most abundant lipid found in the skin, to improve skin penetration of the actives and to protect peptides from degradation by endogenous enzymes. C-Pep™ are proven to protect DNA and stimulate collagen and elastin synthesis, fibroblast proliferation, strengthen tissue connection, protect collagen from UVA and cortisol hormone damages and help skin against chronic inflammation which can help in restoring skin youth. C-Pep™ can enhance the functions in a variety of skin care and color cosmetic formulations. They are available in both water soluble and oil dispersible forms, except C-Pep™ Quintup.

C-Pep™ Nutecyl / Nutecyl CC

Palmitoyl Dipeptide-10: DNA Protective Peptide

C-Pep™ Nutecyl is structurally identical to carnosine that is conjugated with a palmitic acid to improve skin penetration. Carnosine is a naturally occurring dipeptide, which is a powerful antioxidant and can restore proteasome activity. It serves to defend proteins against the crippling effects of glycation and protect DNA against free radical-induced cellular damages. Inheriting the benefits of carnosine, C-Pep™ Nutecyl possesses such agedefying effects that may be used to apply in managing the conditions of skin aging.

To validate its effect on DNA protection, human fibroblast cells were treated with C-Pep™ Nutecyl at the concentrations of 20 ppm and 40 ppm. Results demonstrate a significant DNA protection effect — 53% of protection rate is achieved when 40 ppm is applied.

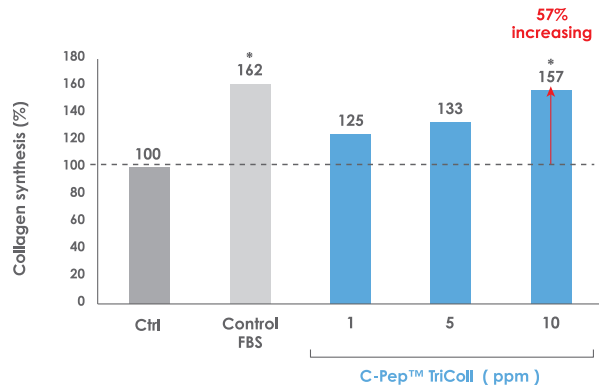


Efficacy Study

C-Pep™ Tricoll / Tricoll CC

Palmitoyl Tripeptide-1: Collagen Booster Peptide

C-Pep™ Tricoll is a natural constituent for producing healthy skin. It functions as the factors involved in the healing and skin turnover process after tissue injury or during skin remodeling, such as collagen synthesis. A study on type-1 collagen synthesis was carried out to evaluate the collagen boosting effect of C-Pep™ Tricoll. Cells were applied with C-Pep™ Tricoll at concentrations of 1-10 ppm. Results show an outstanding stimulated amount of quantified collagen. Up to 57% of collagen stimulation was observed at the applied concentration of 10 ppm as compared with the basal.

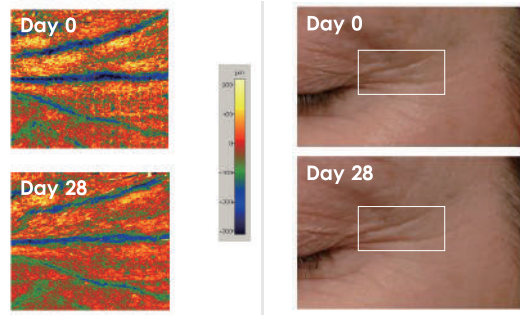


C-Pep™ Defensyl / Defensyl CC

Palmitoyl Tetrapeptide-7: Skin Strengthening Peptide

C-Pep™ Defensyl is a synthetic peptide that mimics the function of dehydroepi-androsterone (DHEA), which is known to peak at high level when young but decline when aged. DHEA is reported to reverse the overproduction of inflammatory cytokines, such as IL-6. As a result, DHEA manages to reduce the possibilities of aging symptoms. *In-vitro* studies were performed to investigate the efficacy of C-Pep™ Defensyl on IL-6, IL-8, and PGE2 production induced by lipopolysaccharides (LPS) induction. Results show dose-dependent reduction in three inflammatory cytokines level when different concentrations of C-Pep™ Defensyl were applied. When the inflammatory cytokines are kept low, the skin gets less damages. Clinical test conducted by Laboratoire DERMSCAN (France) shows that the eye creams containing 3% TriColl and 1% Defensyl can effectively smooth the fine lines around the eyes within 28 days.

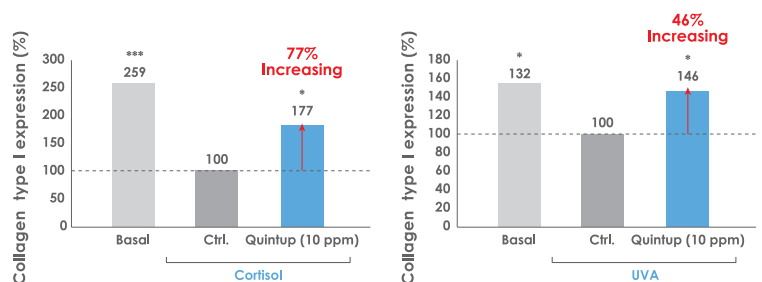
Inflammatory cytokine	C-Pep™ Defensyl			
	80 ppm	60 ppm	40 ppm	20 ppm
IL-6	↓84%	↓57%	↓32%	↓21%
IL-8	↓62%	↓32%	↓12%	-
PGE2	↓90%	↓65%	↓39%	↓34%



C-Pep™ Quintup

Palmitoyl Pentapeptide-4: Skin Structuring Peptide

C-Pep™ Quintup is a synthetic lipopeptide which strengthens the connective tissues, restores skin firmness, and processes strong anti-wrinkle efficacy. It stimulates the production of type I and IV collagen by accelerating collagen relative mRNA expression (COL4A1, COL1A1, FN-1, TGFβ1) in a dose dependent manner while the protein level of type 1 collagen synthesis can be stimulated up to 43% at 5ppm Quintup™ usage. Additionally, Quintup™ significantly rebuilds collagen production from UVA radiation and stress hormone - Cortisol, which brings a long term anti-aging effect.

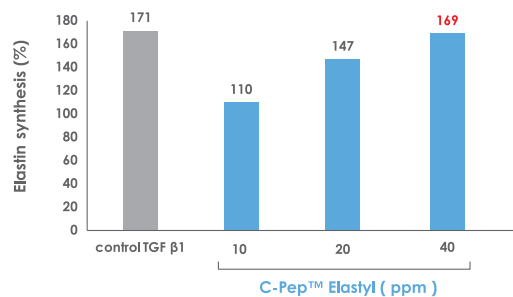
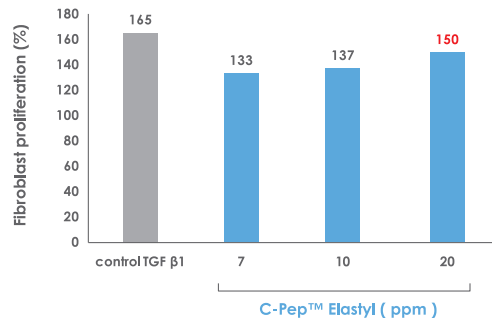


Efficacy Study

C-Pep™ Elastyl / Elastyl CC

Palmitoyl Hexapeptide-12: Skin Firming Peptide

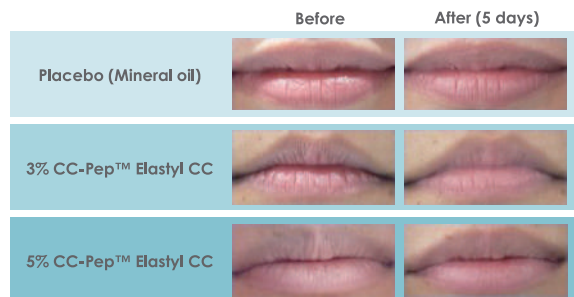
C-Pep™ Elastyl is modeled after the repeating of amino acid sequence in elastin. It mimics the ability of elastin fibers to retain skin elasticity and therefore demonstrates a positive effect on firming and restoring skin to its original state after stretching. In this study, human fibroblast cells were used to investigate the role of C-Pep™ Elastyl in cell proliferation as well as elastin stimulation. At different treated concentrations, an outstanding effect of C-Pep™ Elastyl was observed. Both fibroblast and elastin were dose-dependently stimulated by 20 and 40 ppm respectively, showing the outstanding firming effect that C-Pep™ Elastyl may offer.



C-Pep™ Elastyl / Elastyl CC

In-Vivo Lip Crest Decreasing Effect

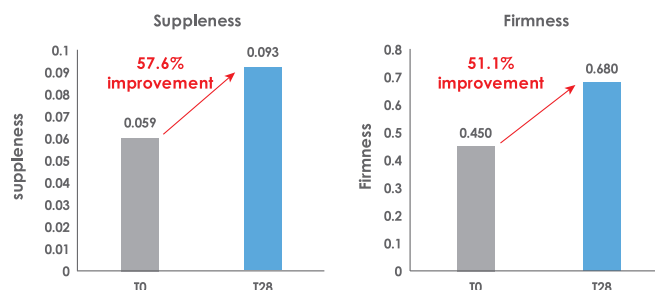
An in-house test was carried out using C-Pep™ Elastyl to determine its effect on decreasing lip crests. 15 female subjects, age between 15 to 50, were recruited in this study. The sample was applied twice a day on the objects' lips. After 5 days, the results show that the applied lip areas became smoother and less wrinkled. The lips became fuller and plumper after the treatment.



C-Pep™ Elastyl / Elastyl CC

In-Vivo Firming Effect

10 subjects, age ranged from 36 to 55, with noticeable loose skin on their faces as inclusion criteria, were recruited in a study conducted by Spincontrol (France). 5.5% C-Pep™ Elastyl cream were applied on subjects' temples twice daily, followed by skin suppleness and firmness analysis using Cutometer®. Results show a noticeable suppleness improvement as well as an increase of retraction/total elongation ratio, suggesting a firmer skin after 28-day treatment.



C-Pep™

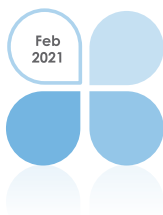
The Solution to Aging

Claim Ideas

- DNA protection
- Collagen boosting
- Anti-glycation
- Anti-inflammation
- Fibroblast proliferation
- Elastin synthesis
- Anti-wrinkle
- Firming
- Anti-photoaging
- Anti-stress

Applications

- Anti-aging products
- Eye contour preparation
- Lip care products
- Firming masks
- Anti-stretch mark products
- Color cosmetics



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