

DC Upregulex™

Silk peptides for firming & reduction of wrinkle appearance



DC Upregulex™

INCI : Water (and) Butylene Glycol
(and) Phospholipids (and)
Hydrolyzed Sericin

CAS #: 7732-18-5, 73049-73-7,
123465-35-0, 107-88-0

EC #: 203-9231-791-2, N/A, N/A

Collagen Stimulation

Tyrosinase Inhibition

Improvement of Cell Proliferation

Hyaluronic Acid Stimulation

Anti-elastic

Film Forming

DC Upregulex™ is a combination of Hydrolyzed Sericin blended with soy phospholipids for improved delivery.

Aging occurs through multiple mechanisms involving poor cell resilience, turnover and function resulting in thin wrinkled skin with a loss in elasticity and firmness and a blotchy mottled appearance.

Aging skin also reacts slower and has lost the ability to resist environmental damage effecting cellular metabolism and motility. DC Upregulex™ has been shown *in vitro* to work on cells of the skin by influencing gene expression, protein production, cell differentiation and overall function. It provides resilience by increasing the skin's ability to fight oxidative stress from within and fortifies skin cells to restructure for a younger more vibrant look. Furthermore, DC Upregulex™ has been clinically tested and shows significant improvement in anti-aging parameters both instrumentally and visually.

DC Upregulex™ leverages the benefits of a lamellar complex of lipids and hydrolyzed sericin to provide a unique full spectrum anti-aging benefit. Today's consumer requires more and more from skin care ingredients than ever before. Soy phospholipids provide not only the vehicle to assist sericin into the skin but have a unique skin restructuring effect on the epidermis, normalizing problem skin. Highly active fractions of sericin peptides have a high affinity to keratin and offer numerous well-documented cosmetic benefits providing cellular nutrition, protection and restorative activation of multiple dermal renewal processes.

Recommended applications



Skin Care

Color Cosmetics



 Vantage

Gene array studies

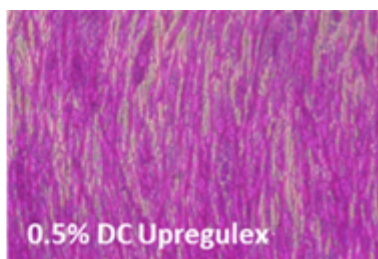
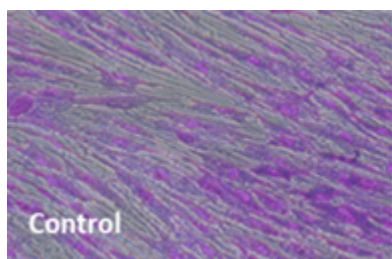
DC Upregulex™ was found to modulate the expression of several genes including collagen production as well cell protection from oxidative damage.

DC Upregulex™ on
Reconstructed model
72 hour incubation
Affymetrix® system
Data on 22,200 probes and
flagged

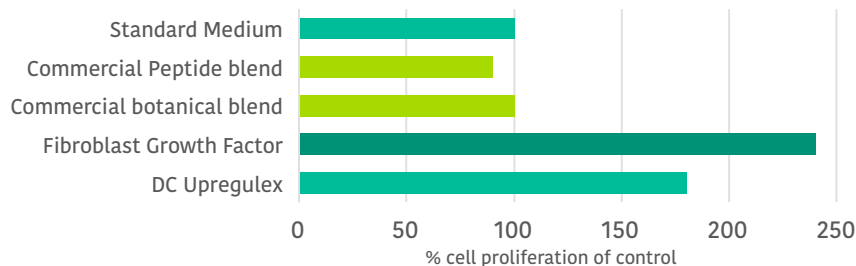
Gene Name	Changes	Significance
tubulin, beta 2B	Upregulation	Building blocks of cellular architecture
superoxide dismutase 2	Upregulation	Mitochondrial Antioxidant enzyme
claudin 6	Upregulation	Protease inhibitor of Serpin family
kinesin 20A	Upregulation	Molecular intracellular motor (ATPase)
hyaluronan proteoglycan link protein 1	Upregulation	Assembly and stabilization of ECM
cytochrome P450	Upregulation	Detoxification
collagen, type XIV, alpha 1 (undulin)	Upregulation	Extracellular matrix protein
collagen, type XV, alpha 1	Upregulation	localized in basement membrane
cytochrome P450	Upregulation	Detoxification
laminin alpha2	Upregulation	structural scaffolding of basement membranes
glutathione S-transferase theta 2	Upregulation	Detoxification
collagen, type XI, alpha 1	Upregulation	Mediates interactions between cells and ECM
hyaluronoglucosaminidase 1	Down regulation	Digestion of Hyaluronic acid
matrix metalloproteinase 8	Down regulation	Digestion of extracellular matrix proteins

Effect on cell proliferation

DC Upregulex™ improved cell viability as well as cell morphology suggesting a cell regeneration effect.



Effect on cell Proliferation



Cells: Human Skin Fibroblast Monolayer Culture

Negative Control: Untreated Cells

Test products

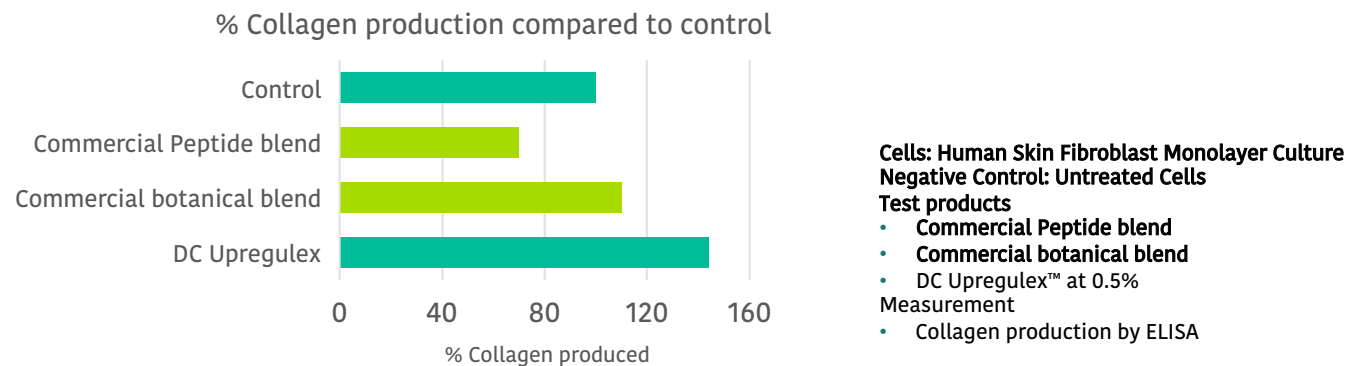
- DC Upregulex™ at 0.5%
- FGF (fibro blast growth factor)
- Commercial Peptide blend
- Commercial botanical blend

Measurement

- Cell Morphology 4 hours after treatment
- Cell viability by MTT assay after 24 hours

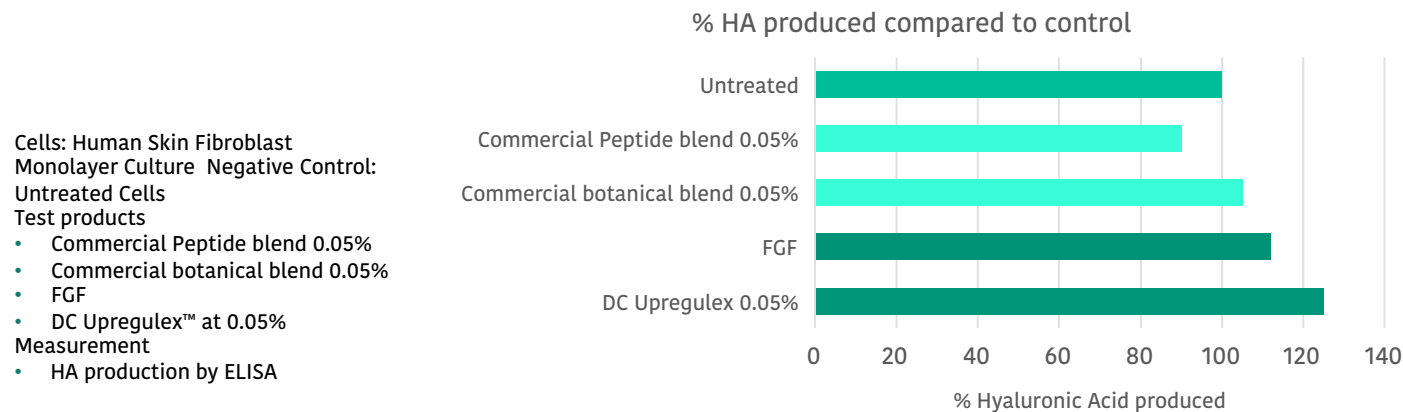
Collagen production

DC Upregulex™ promoted the synthesis of Collagen I better than commercial products and suggests its anti-aging ability.



Stimulation of HA production

DC Upregulex™ promoted the synthesis of Hyaluronic acid better than commercial products and suggests its skin moisturization properties.



DC Upregulex™

Skin peptides for skin firming and reduction of wrinkle appearance

Appearance	Milky brown liquid
Odor	Characteristic
pH	4.75 – 6.50
Specific Gravity	0.990 – 1.150
Recommended Use Level	2-6%

Preservative System: Phenoxyethanol, Caprylyl Glycol, Potassium Sorbate, and Hexylene Glycol

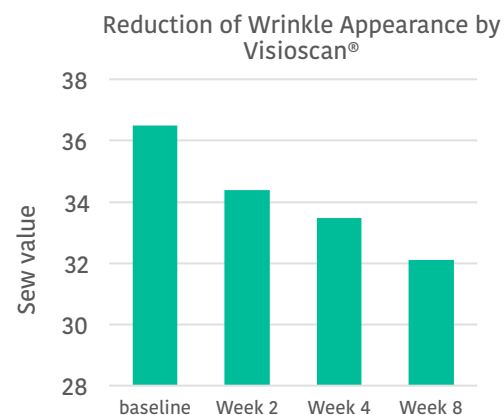
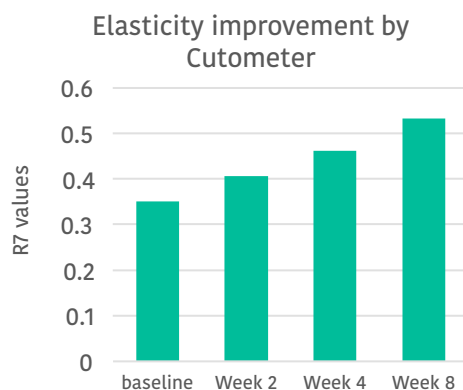
In vivo skin firming & reduction of wrinkle appearance studies

An 52% increase in skin firmness along with 12% Reduction in wrinkle severity was observed with visual improvement in skin tone, brighter skin and reduced redness.

Method

Measurement at baseline, week 2, week 4 and week 8

- Cutometer R7 parameter for skin Elasticity
- Wrinkle reduction by Visioscan®
- Visual assessment of Skin Erythema, Tone and brightness



Baseline

Week 2

Week 4

Week 8

DC Upregulex™ exhibits a skin firming benefit that is visible within 2 weeks.