



SERICIN

*Creating a silky
skin cocoon*

Master Presentation
11-2020

Agenda

1. Consumer demand & market trends

2. The product

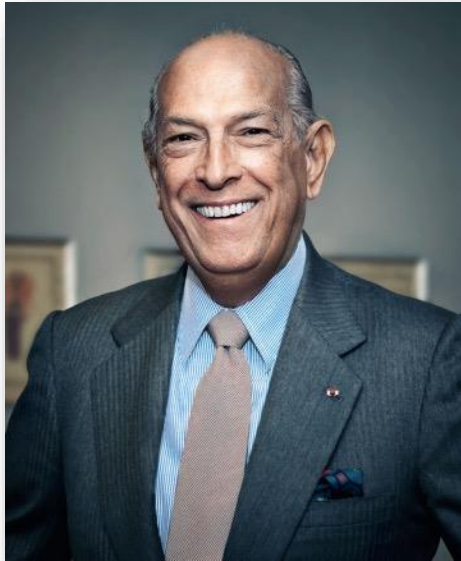
3. Claim substantiation

4. Cosmetic use



“I believe in products which protect and prevent my skin from dehydration. The pleasurable feeling of smooth and luminous skin endorses myself in treating my skin the right way!”

Famous fashion designer Oscar de la Renta:

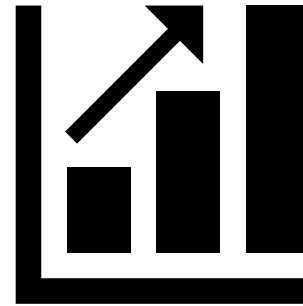


*"**Silk** does for the body what diamonds do for the hand."*

Image source: <https://www.luxuo.com/culture/celebrities/oscar-de-la-renta-has-died.html>

The rise of silk cocoon in skin care

Silk cocoon-based skin care formulations are starting to **take off** in Asia as consumers seek an alternative way to treat the ageing process!



SILK

Some facts



The history

- Silk has been synonymous with **luxury and beauty**
 - Silk culture has been successfully practiced for at least 5000 years in China
-

- The fabric is renowned for its sensual feel

The characteristic

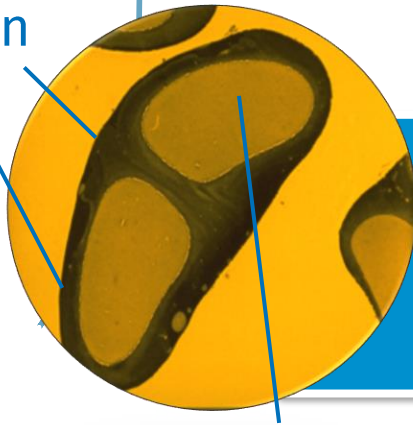
- Silk fibers are very fine, about 10 nanometers (1/2500th of an inch) in diameter.
- The **shimmering appearance** for which silk is prized comes from the fiber's triangular prism-like structure which allows silk cloth to refract incoming light at different angles.

The potential of silk cocoon



Silkworms spin a **protective cocoon** from a single length of fine, strong, lustrous silk thread up to 1 km in length, which is the source of commercial silk

Sericin



Fibroin

A silk cocoon consists of two classes of **cocoon proteins**: Fibroin & **Sericin**.

- Sericin is the protein wrapping fibroin
- Sericin contributes about 20-30% of total cocoon weight

***Natural Sericin is like a
“second skin”.***



SERICIN

Recent market trends

Silk Mask - China



Replenish skin with moisture and nutrients, prevent dryness, and smooth out wrinkles, for a smooth and tender finish

Silk Foam - Japan



- With **DSM Sericin** derived from **delicate white silk cocoon**
- prevents the loss of skin moisture leaving the skin feeling soft and hydrated

Liquid Silk Shampoo - Germany



- Formulated with liquid nutri-silk
- Smooth the hair surface, offering suppleness and gloss shine, leaving hair like silk.

Silken Pore Perfecting - USA



Contains silk sericin extracts to reduce the appearance of pores, leaving skin glowing while providing elegant and effective broad spectrum protection against harmful UVA and UVB

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Creating a silky skin cocoon



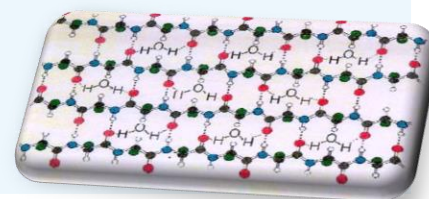
- Sericin is isolated from the delicate white silk cocoon made by the sole domesticated silkworm species, *Bombyx mori*
- The silk glands of *Bombyx mori* are highly specialized for the synthesis of the cocoon protein Sericin

SERICIN

Characteristics & Functions

Composition (INCI): Aqua, Sericin, Potassium Sorbate, Citric Acid

Characteristics	Functions
High proportion of high molecular weight (15000 – 25000 Dalton) oligopeptides	Forms a multifunctional protective film on the skin and hair surface, imparting an immediate, long lasting, smooth, silky feeling
High content of the hydroxy amino acids Serine, Threonine	High affinity to hydrophobic proteins such as keratin and high water binding capacity which regulates skin moisturization

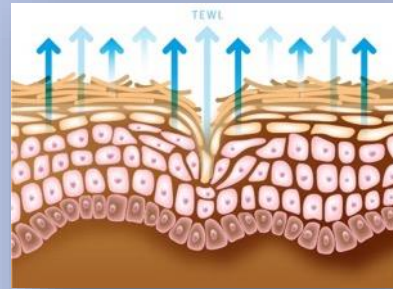


Voegeli R et al; Sericin Silk Protein : Unique Structure and Properties Cosmetics & Toiletries 108(12) 101-108 (1993)

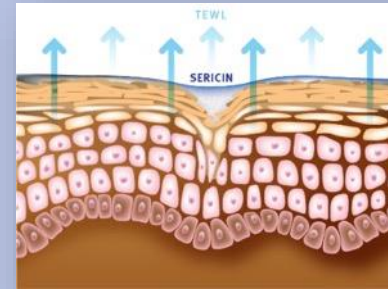
SERICIN

Benefits

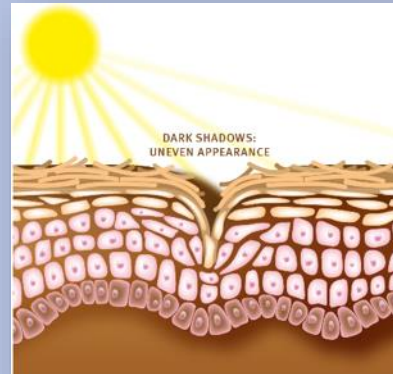
- Creates a **silky skin hydration cocoon** by reducing TEWL



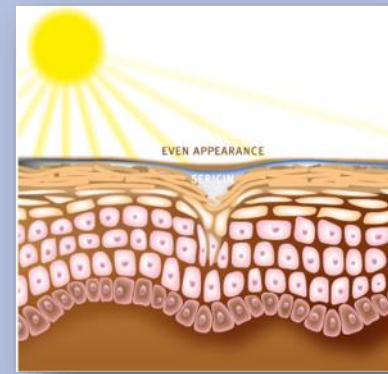
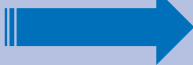
SERICIN



- Smoothes and protects skin like silk

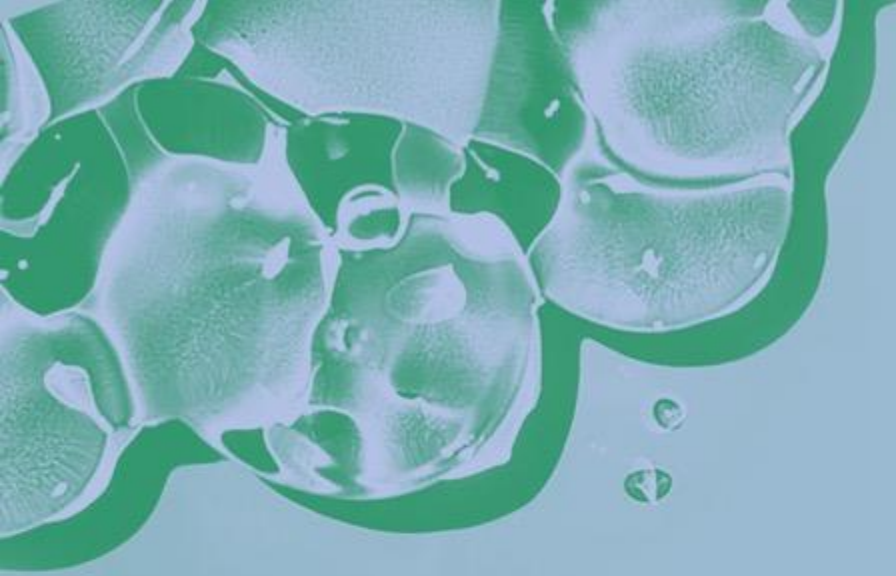


SERICIN



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SERICIN EFFICACY – *in vivo*

Lock in moisture

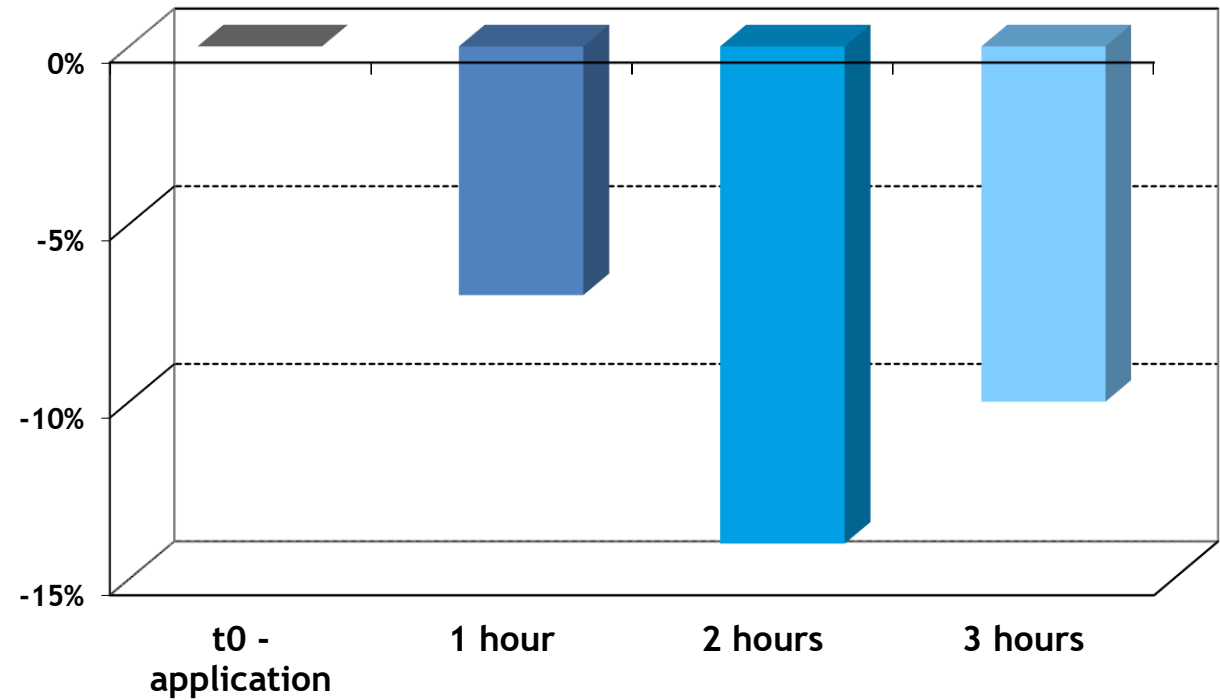
Study Design

- 6 female volunteers, 40-48 years
- Single application on inner forearm with 224 µl of SERICIN
- TEWL measurement with Evaporimeter

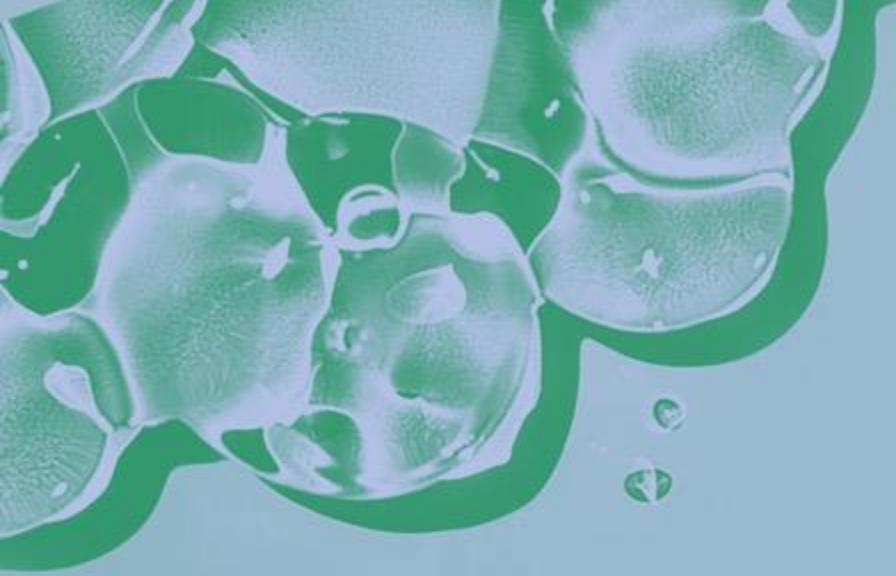
SERICIN EFFICACY – *in vivo*

Lock in moisture

Reduction of Transepidermal Water Loss (TEWL) after single application



After single application, SERICIN strengthens the epidermal barrier by decreasing TEWL .



SERICIN EFFICACY – *in vivo*

Upregulates skin's moisture content

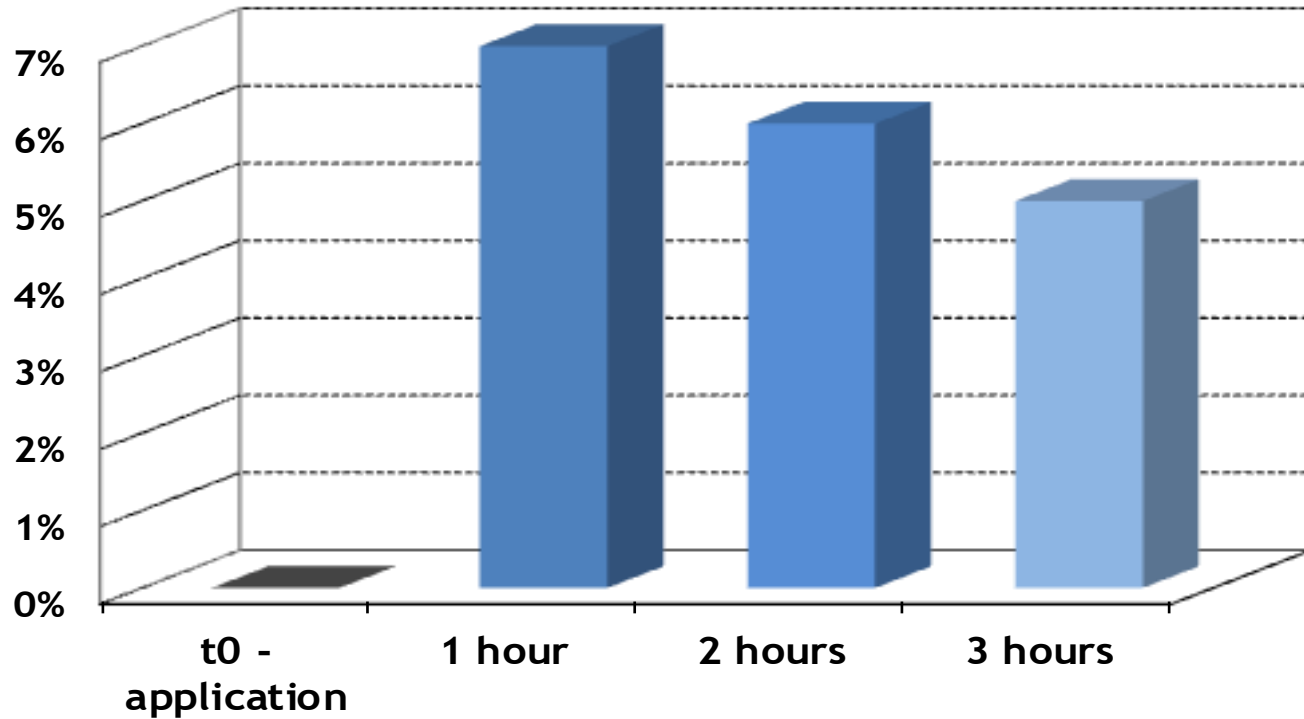
Study Design

- 6 female volunteers, 40-48 years
- Single application on inner forearm with 224μl of SERICIN
- Determination of moisture in the skin *by Transient Thermal Transfer* measurement

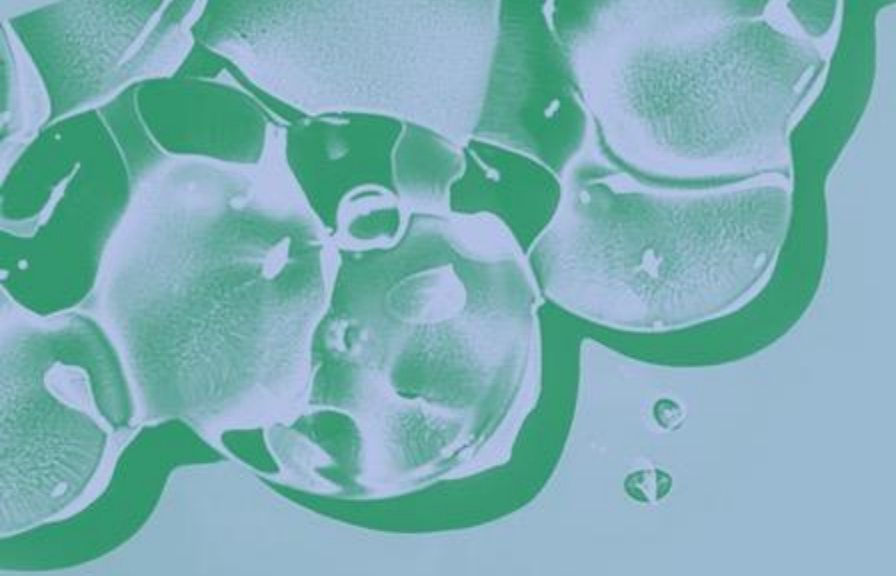
SERICIN EFFICACY – *in vivo*

Upregulates skin's moisture content

Moisture content increase in epidermis after single application



Strong moisturizing effect after single application.



SERICIN EFFICACY – *in vivo*

Wipe away wrinkles

Study Design

- 10 female volunteers, 35-50 years
- Twice daily application on the crow's feet with 7% SERICIN in a o/w cream against placebo
- Three dimensional analysis of the image by WRINKLE[®], measured before and after a treatment of 21 days

SERICIN Efficacy – *in vivo*

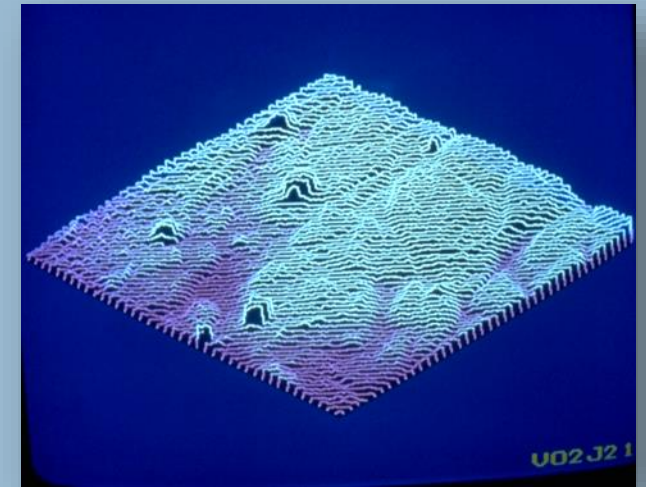
Wipe away wrinkles

Image of the cutaneous relief of one volunteer before and after the treatment

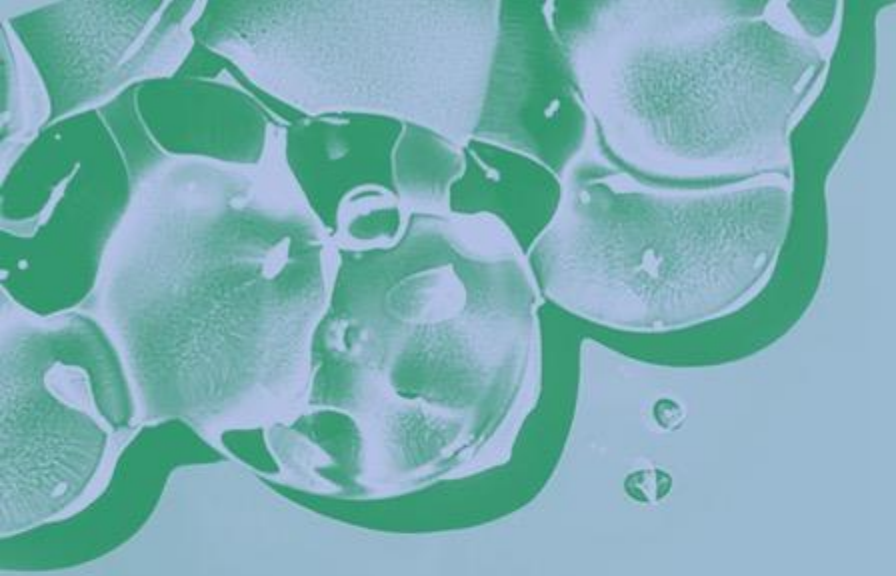
SERICIN induces an improvement of the cutaneous relief and a decrease in deep wrinkles



**Before
application**



After application



SERICIN EFFICACY – *in vivo*

Anti-irritant properties

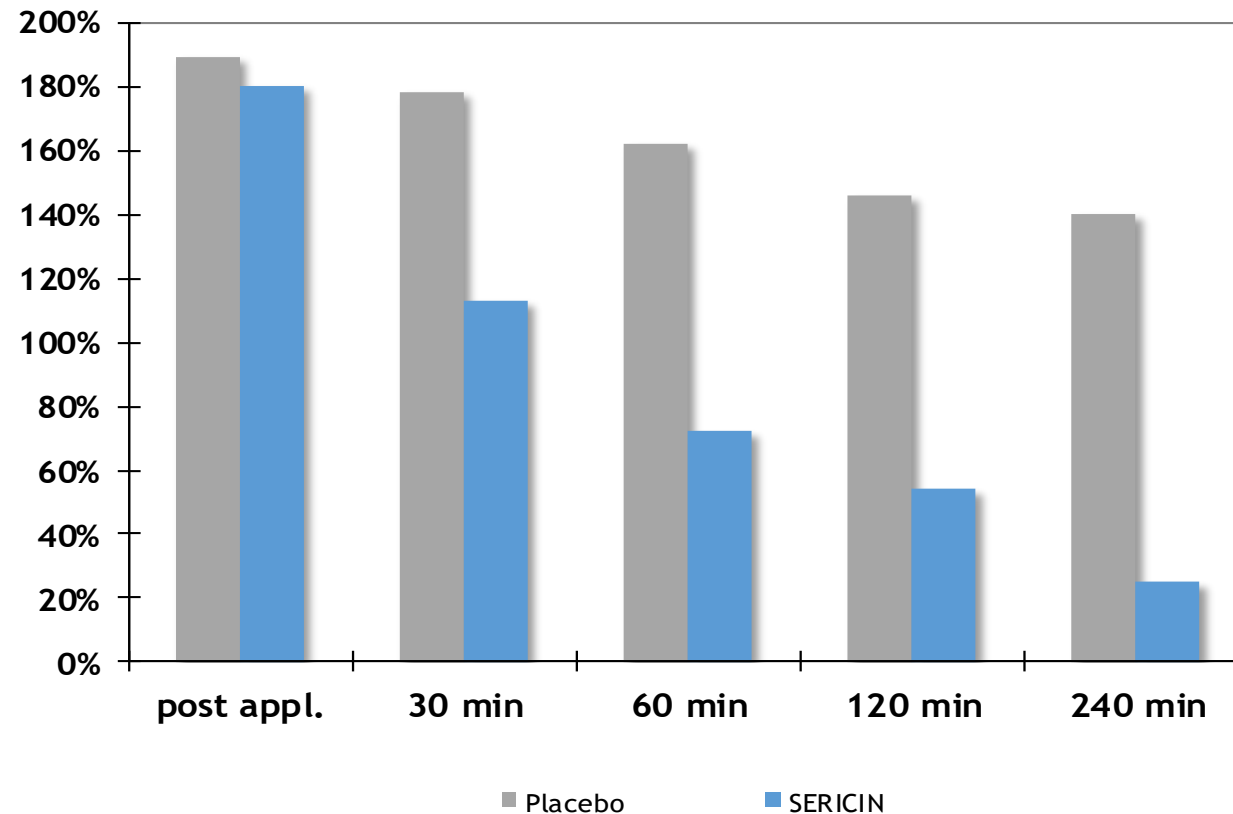
Study Design

- 10 subjects
- SERICIN was dissolved at 5% into a gel on the day of the test and patched on the forearm (vs. placebo)
- Skin irritation was assessed with laser Doppler over the next four hours

SERICIN Efficacy – *in vivo*

Anti-irritant properties

**Reduction of irritation after
SLS application
Laser Doppler: blood flow**



SERICIN reduces irritation caused by SLS

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SERICIN

Formulation guidance



Dosage:
use level of 1-

For skin and hair care preparations a
7 % SERICIN is recommended.

Processing:
processed

SERICIN is very easy to handle, it can be
either warm (80°C) or cold.

pH:
with SERICIN

The optimal pH-range of a formulation
is between 5 and 9.

Ethanol:

SERICIN is not compatible with ethanol.

Storage:
sealed
clean place.

Between 15 and 25°C in the original
container, protected from light in a

SERICIN

Guide formulation

Skin Sublimating Cocoon

With SERICIN, ALPAFLOR® SCUTELLARIA AO, Mixed Tocopherols 95 and AMPHISOL® K

Unique quality of DSM SERICIN and ALPAFLOR® SCUTELLARIA AO allows your skin to experience a new sense of ultra-comfort.

Phase	Ingredients	INCI Name	% w / w	Supplier
A	WATER DEM.	AQUA	71.35	
	SODIUM GLUCONATE GRANULAR	SODIUM GLUCONATE	0.30	101020
	Dekaben CP	CHLORPHENESIN	0.25	100665
	Euxyl PE 9010	PHENOXYETHANOL, ETHYLHEXYLGLYCERIN	1.00	100444
B	CremerGlyc Refined Glycerine	GLYCERIN	6.00	101003
	Organic			
	COVACRYL MV 60	SODIUM POLYACRYLATE	0.50	100659
C	Keltrol CG-T	XANTHAN GUM	0.20	100400
	Emulium Mellifera	POLYGLYCERYL-6 DISTEARATE, JOJOBA ESTERS, POLYGLYCERYL-3 BEESWAX, CETYL ALCOHOL	3.00	100413
	AMPHISOL® K	POTASSIUM CETYL PHOSPHATE	0.20	100288
	Lanette O	CETEARYL ALCOHOL	1.00	100037
	ACTICIRE	JOJOBA ESTERS, ACACIA DECURRENS FLOWER CERA, HELIANTHUS ANNUUS SEED CERA, POLYGLYCERIN-3	1.00	100413
	Eutanol G	OCTYLDODECANOL	4.00	100037
	Cetiol C5	COCO-CAPRYLATE	5.00	100037
	Mixed Tocopherols 95	TOCOPHEROL	0.05	100288
	Sepinov EMT 10	HYDROXYETHYL ACRYLATE/SODIUM ACRYLOYLDIMETHYL TAURATE COPOLYMER	0.90	100313
	SERICIN	SERICIN, AQUA, POTASSIUM SORBATE, CITRIC ACID	3.00	100288
D	ALPAFLOR® SCUTELLARIA AO	GLYCERIN, AQUA, CITRIC ACID, SODIUM BENZOATE, POTASSIUM SORBATE, SCUTELLARIA ALPIA FLOWER/LEAF/STEM EXTRACT	2.00	100288
E	Lavande RS60111	PARFUM	0.15	100668
F	Citric Acid 25% solution	CITRIC ACID, AQUA	0.10	101020

SK-E-101152-6

SERICIN

Guide formulation

Smoothing Leave-in Conditioner For frizzy and unruly hair with TILAMAR® Quat 640

Phase	Ingredients	INCI Name	% w / w	Supplier
A	Water dem.	Aqua	ad 100	
	TILAMAR® QUAT 640	Polyquaternium-6	1.45	100288
	L(+)-Lactic Acid solution	Lactic Acid	0.10	100134
	FD & C Yellow 5 W 081	CI 19140; US:Yellow 5		100427
B	Hydagen CMF	Chitosan Glycolate	5.00	100037
	Xiameter OFX-0190 Fluid	PEG/PPG-18/18 Dimethicone	2.00	100404
	SERICIN	Sericin	1.00	100288
C	NIACINAMIDE PC	Niacinamide	0.50	100288
	ETHYL PANTHENOL	Panthenyl Ethyl Ether	0.75	100288
	PUROX S	Sodium Benzoate	0.50	100288
D	Ethanol	Alcohol	6.00	100230
	PARSOL® SLX	Polysilicone-15	1.50	100288
	PARSOL® GUARD	Octocrylene & Homosalate & Butyl Methoxydibenzoylmethane & Tocopherol & Helianthus Annuus (sunflower) seed oil	0.20	100288
	Xiameter PMX-0245	Cyclopentasiloxane	8.00	100404
	Perfume	Perfume	q.s	100106
	Xiameter PMX-1184 Silicon Fluid	Trisiloxane & Dimethicone	7.00	100404

HC-E-100168-064

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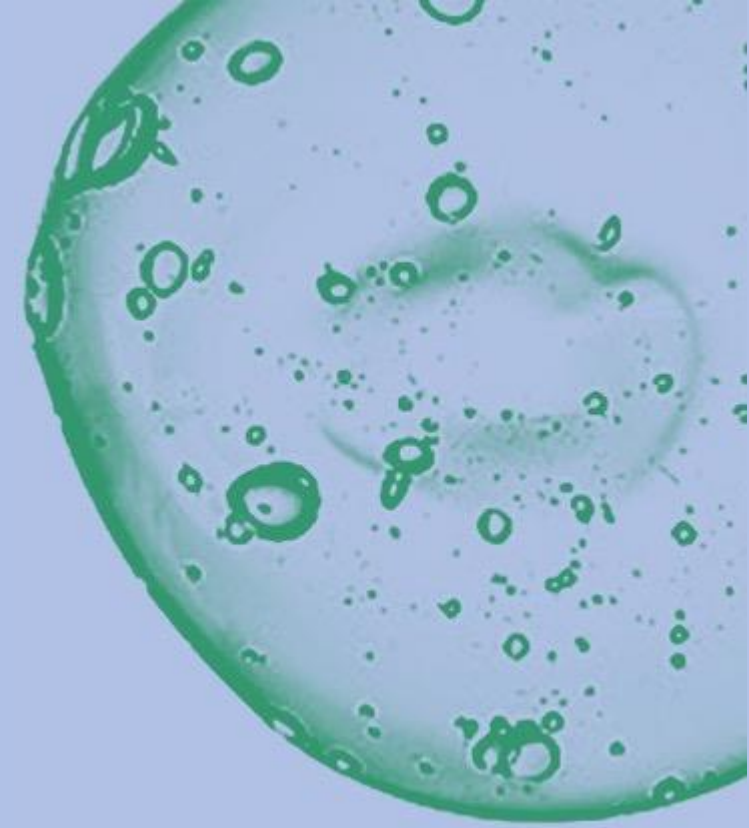
Application concepts

- Skin sublimating cocoon:
SERICIN and ALPAFLOR® SCUTELLARIA
AO
- Anti-Wrinkle Night Cream W/O SERICIN
- Smoothing Leave-in Conditioner for
frizzy and unruly hair:
SERICIN and TILAMAR® Quat 640
- Smoothness boost: Mix it with the Mix
and Match shampoo with SERICIN

SERICIN

What is in it for the consumer?

- Long lasting silky film on skin & hair
- Unique multi-functionality:
 - Silky Feel and Touch
 - Moisturization
 - Protection
 - Smoothing
 - Anti-wrinkle effect
 - Anti-irritation effect
- Pampering and Well-Being



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