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BergaCare Ceramide NG

The Hair Ceramide!



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Spotlight on Hair Structure

The Hair CMC

Zooming in on Hair

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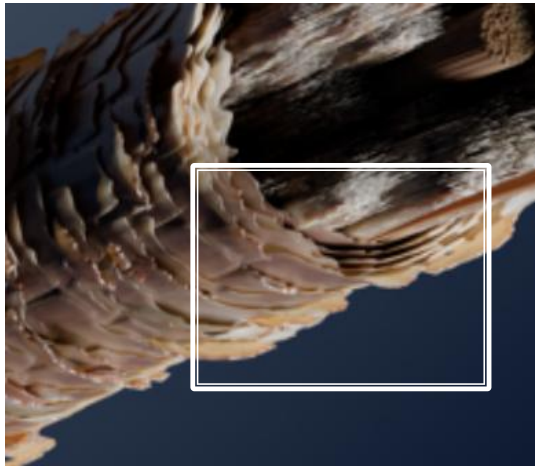

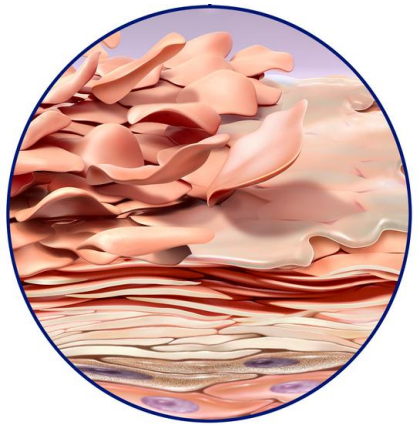

When you look at the structure of the cuticle (like tiles of a roof), what does it remind you of?

Brick-and-mortar structure of the stratum corneum of the skin!

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Ceramides in Hair & Skin

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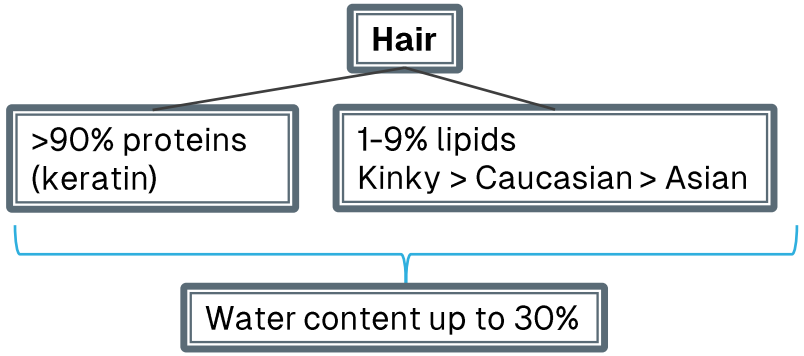
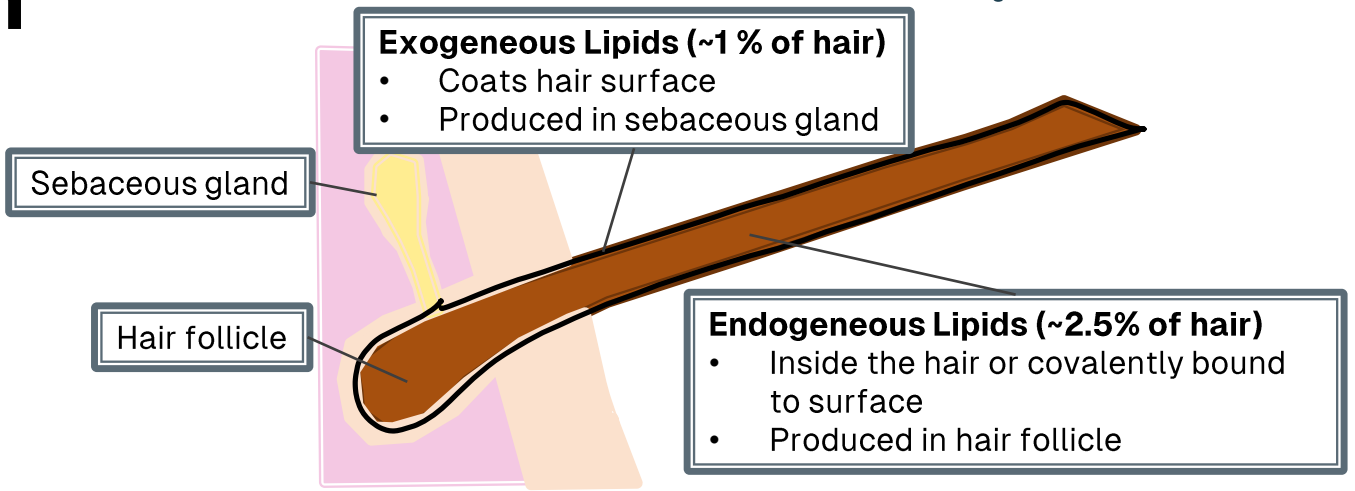
Comparison





	Stratum Corneum Lipids	Endogeneous Hair Lipids
Types	Ceramides, cholesterol, fatty acids	Fatty acids, cholesterol, ceramide, glycosylceramides, cholesterol sulfate, 18-methyleicosanoic acid (18-MEA)
Role	Maintains skin barrier and moisture retention	Cohesion of cells - contributes to mechanical properties of the hair; makes hair „water-proof“

Did you know? The amount of Ceramides in hair decreases
- With age
- With distance to the root

L. Coderch, C. Alonso, M. T. García, L. Pérez, M. Martí, *Cosmetics* **2023**, *10*, 107.
Y. Lee, K. Choi, M. Choi, S. Ji, J. Yoo, Y. Lee, J. Hong, Y. Yun, H. Yoo, *Arch Pharm. Res.* **2009**, *12*, 1795.

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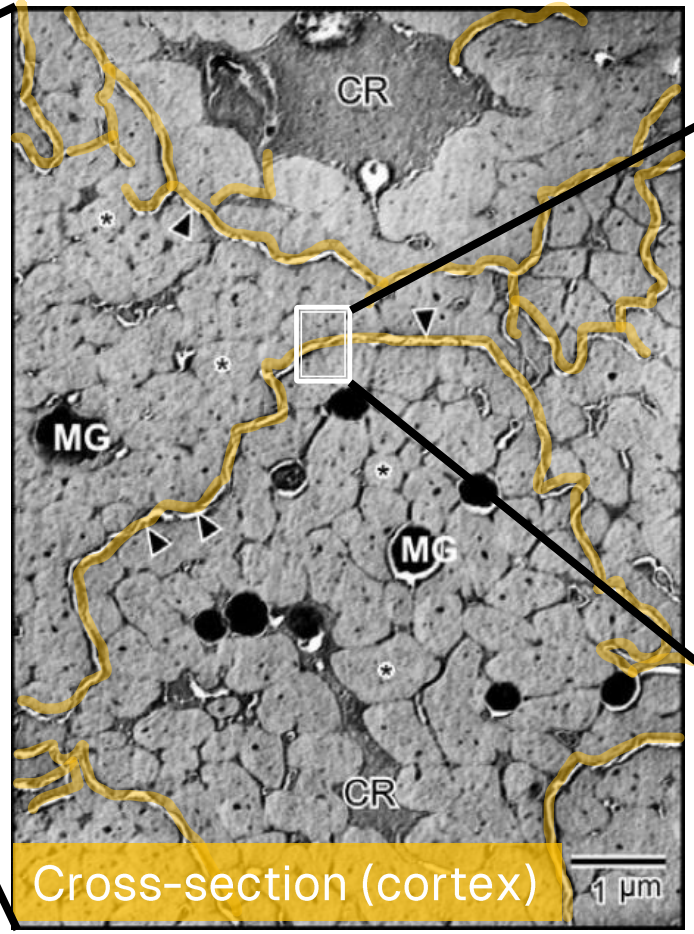
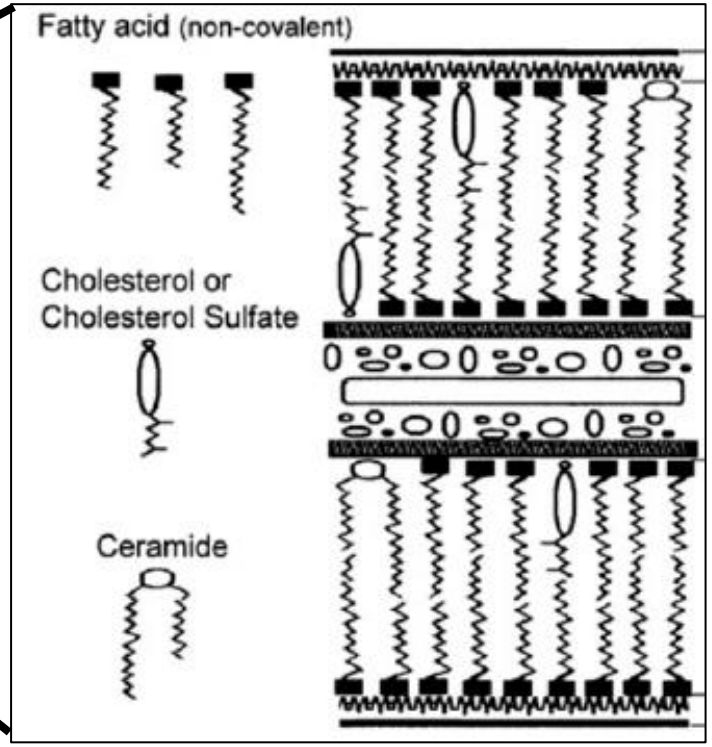
The CMC (Cellular Membrane Complex)

Zooming in







The CMC consists of only a few layers of lipid molecules!

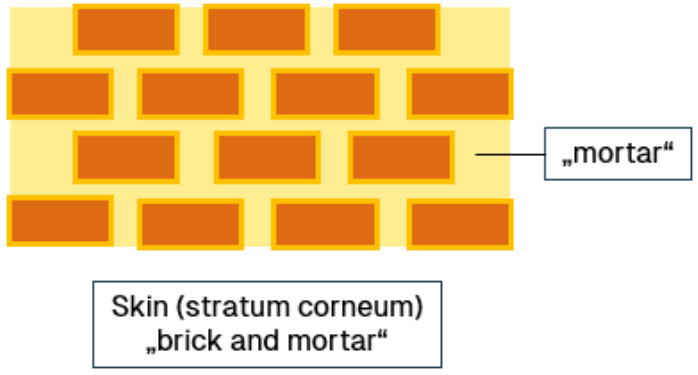
Y. S. Lim, D. P. Harland, T. L. Dawson Jr., *Experimental Dermatology* **2019**, *28*, 517–527.
T. Evans, R. R. Wickett (ed.), Practical Modern Hair Science, 2012, Allured Business Media

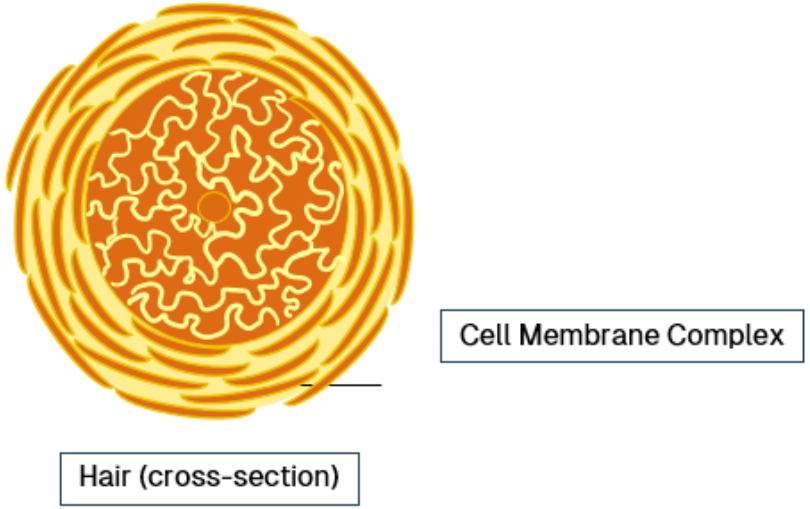
The Role of Ceramides in Hair Care

Just a skinifikation trend?

Skinfication = principles of skin care are transferred to hair.

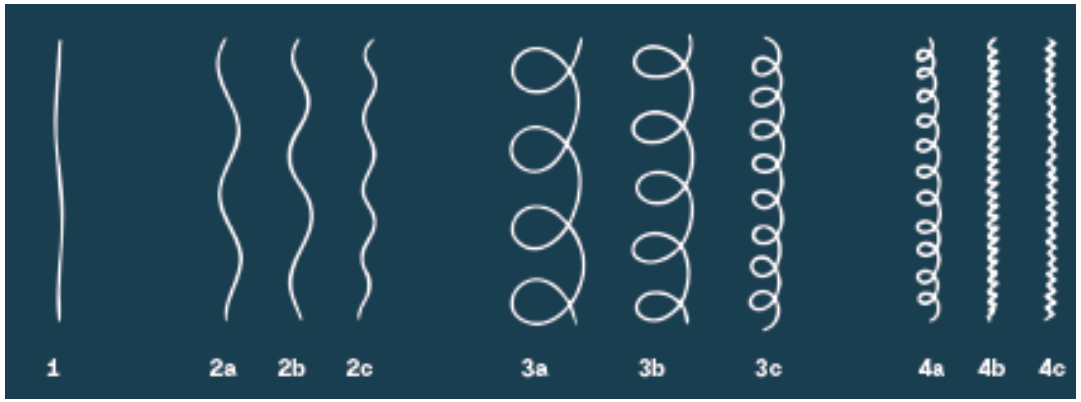
- Ceramides are part of the hair‘s **Cellular Membrane Complex** (CMC)
- Help to **maintain cohesion** between cuticle cells, between cuticle & cortex and between cortex cells
- Analogy to „brick and mortar“ organization of the skin‘s stratum corneum
- Helps replenish lipids, counteracts brittleness, dryness





Moisture, Lipids, Brittleness

It‘s all related



Lipid content: Kinky > Caucasian > Asian

Lipid order: Caucasian > Asian > Kinky

Water absorption rate: Kinky > Asian = Caucasian

Loss of lipids by:

Age, surfactants, daily weathering, chemical treatments

→ hair becomes brittle and more hydrophilic, decrease of tensile strength & shine

More water absorption = frizzy, weak hair



Moistured hair does not mean more water! It means more lipids

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The Hair Mimetic Ceramide

Ceramide NG

The hair mimetic ceramide

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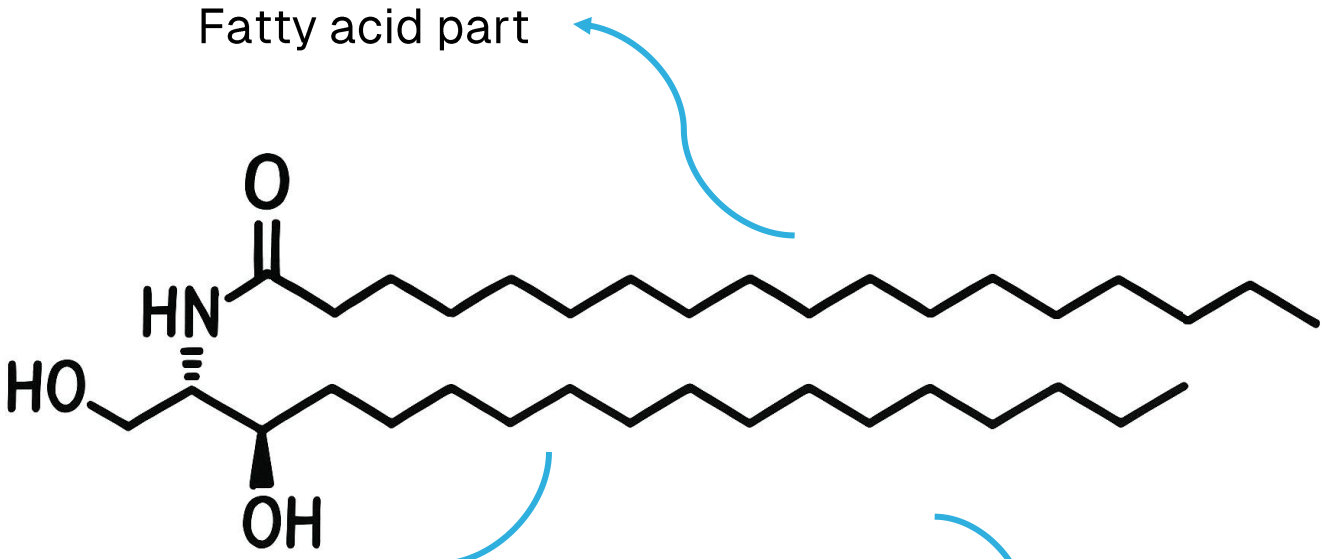

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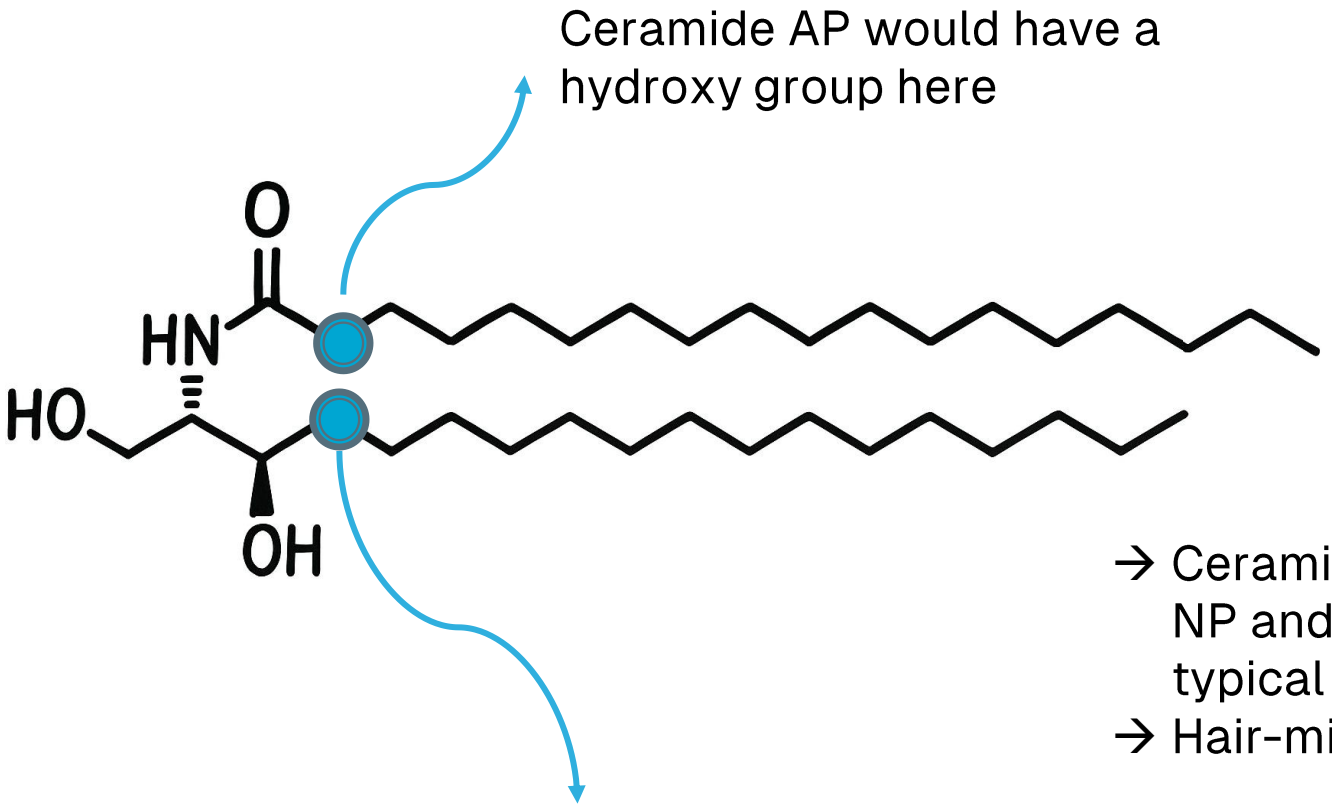
Why Ceramide NG for Hair?

Ceramide NG is very non-polar



→ Ceramide NG is **less polar** than NP and AP and contributes to typical water-resistance of hair.
→ Hair-mimetic Ceramide

Think Hair Care Along The Strand

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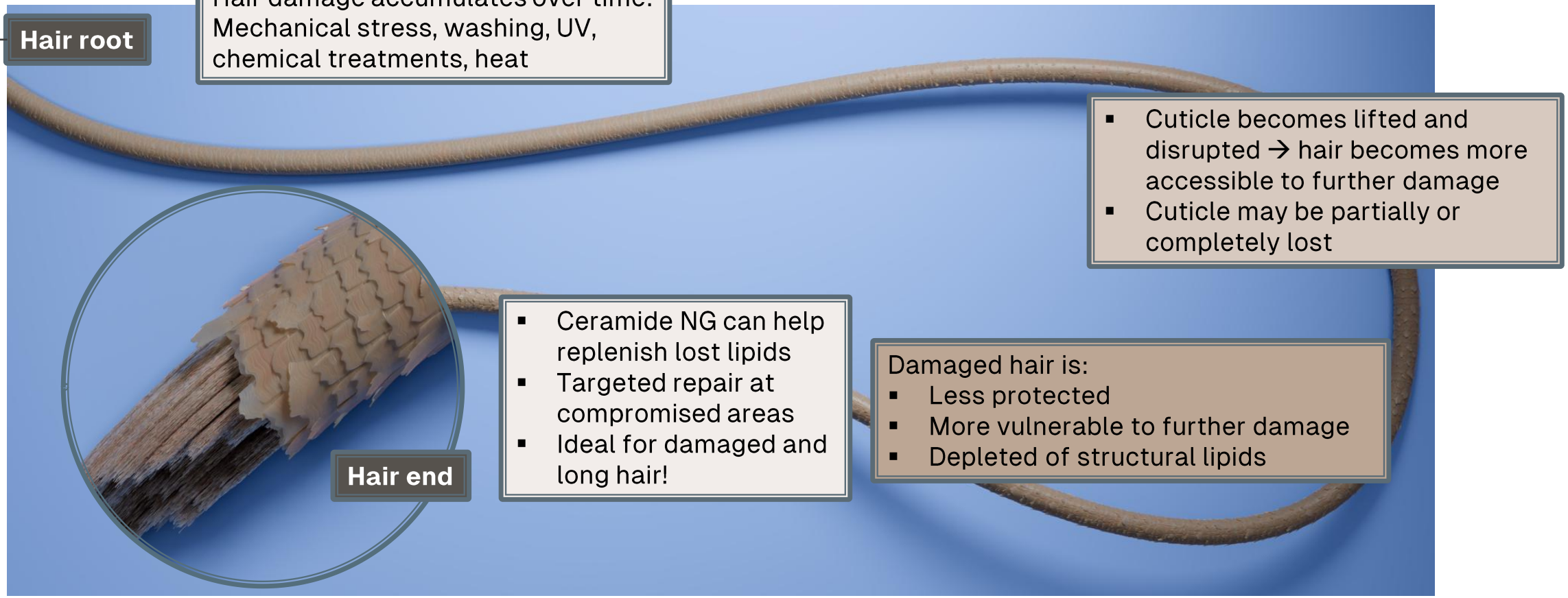
The Life of a Long Hair



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Market Insights

The Rise of Ceramides in Hair Care

Ceramides in Hair Care

A Part of the Skinification Movement

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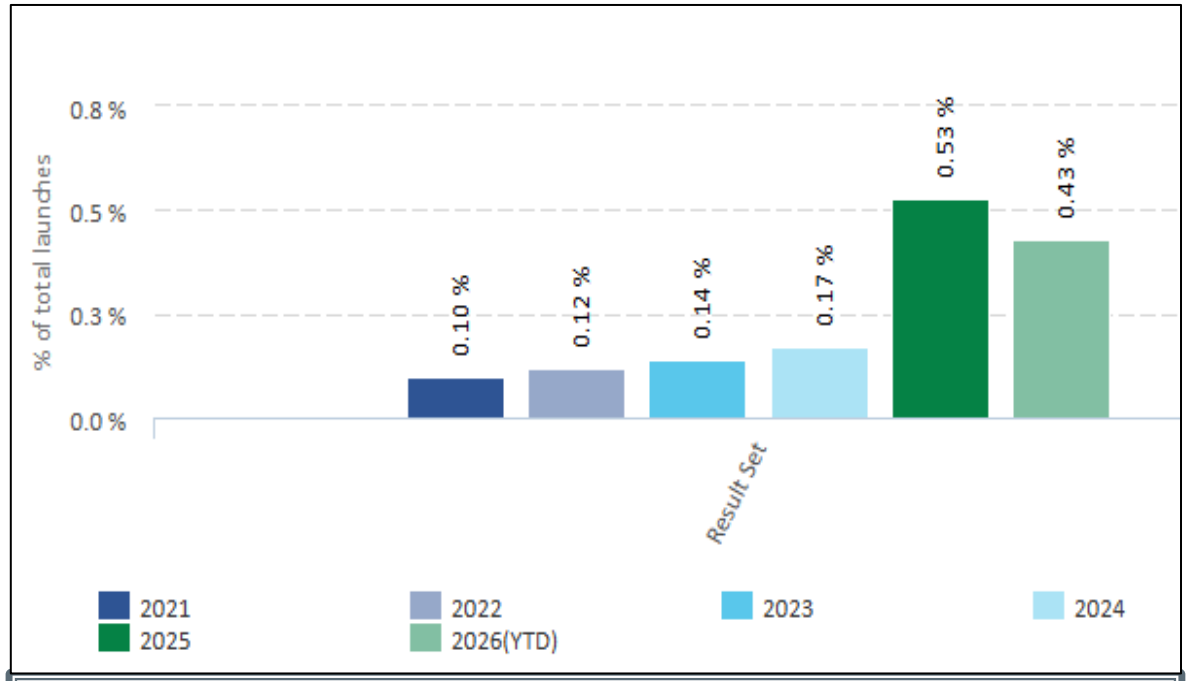
Claims:



Ceramides

Of all hair care launches globally in the last 5 years, how many were with ceramides



About 1 in 200 hair care launches use Ceramides (vs. 3 in 200 skin care launches)

Positioning Top 10?

Positioning Subcategory	Product Count (%) (%)
Ethical - Animal/Fish & Bird	49.29
Hair Condition - Damaged	46.69
Ethical - Packaging	44.49
No Animal Ingredients	44.31
Paraben Free	41.13
Vegan	39.66
No Animal Tested	39.63
Hair Condition - Dry	38.27
Hair Condition - Scalp Care	37.91
Sulfate Free	34.39

Source: Innova New Products Database

Search Criteria

- Last 5 years
- Globally
- All INCI with Ceramide (exclude crosspolymer)
- All Hair care subcategories

- % of total launches vs year
- 26.01.2026
- Product count: 2733

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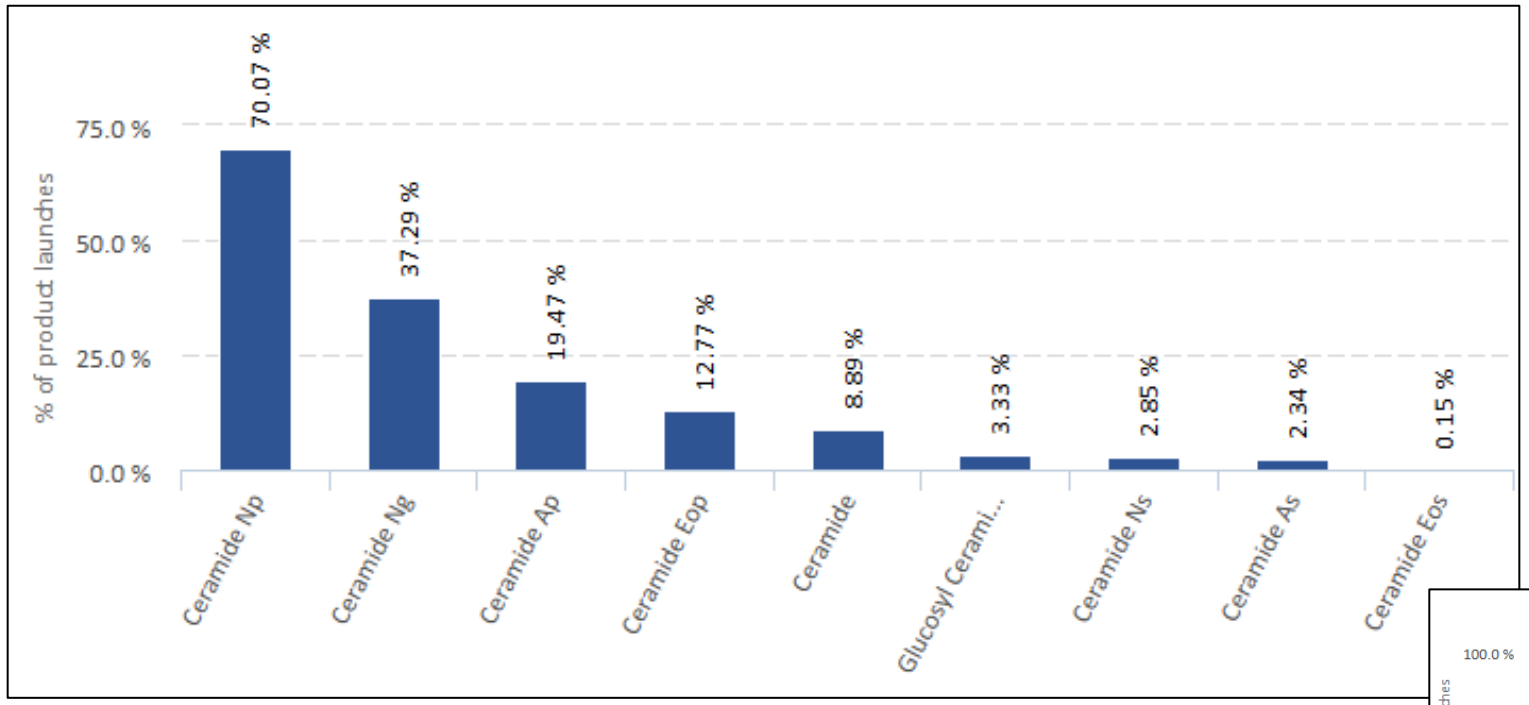
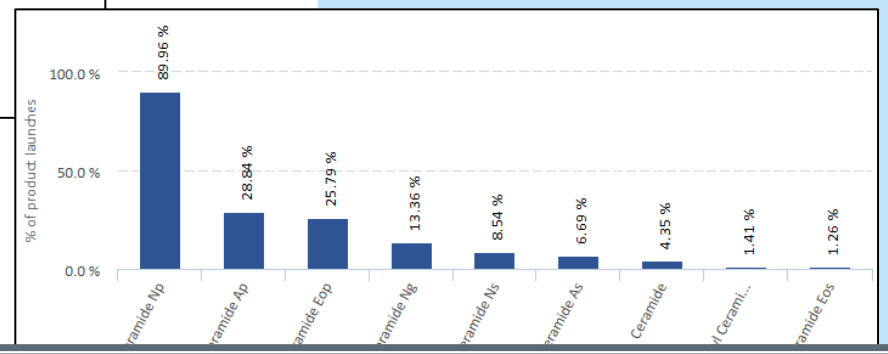
Ceramides

Ceramide NG is much more popular in hair care than skin care



Ceramide NP > **Ceramide NG** > Ceramide AP

Source: Innova New Products Database



Skin Care: Ceramide NP > AP > EOP > **NG**

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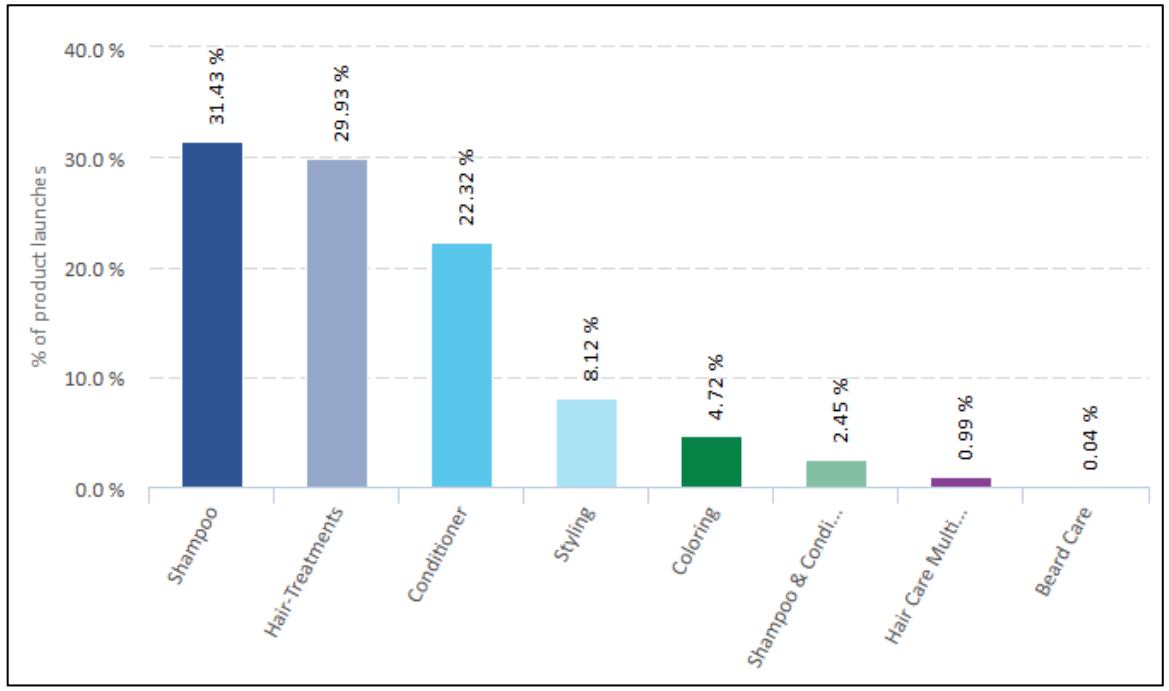
Search Criteria

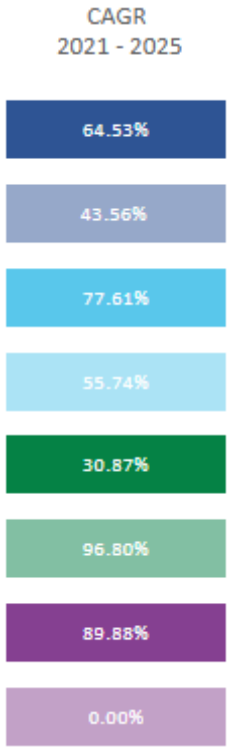
- Last 5 years
- Globally
- All INCI with Ceramide (exclude crosspolymer)
- All Hair care subcategories

- % penetration vs Ingredient
- 26.01.2026
- Product count: 2733

Ceramides

Of all hair care launches globally in the last 5 years, which sub-categories?





Shampoos and hair treatments* leading
*includes scalp treatments

Source: Innova New Products Database

Search Criteria

- Last 5 years
- Globally
- All INCI with Ceramide (exclude crosspolymer)
- All Hair care subcategories

- % penetration vs Ingredient
- 26.01.2026
- Product count: 2733

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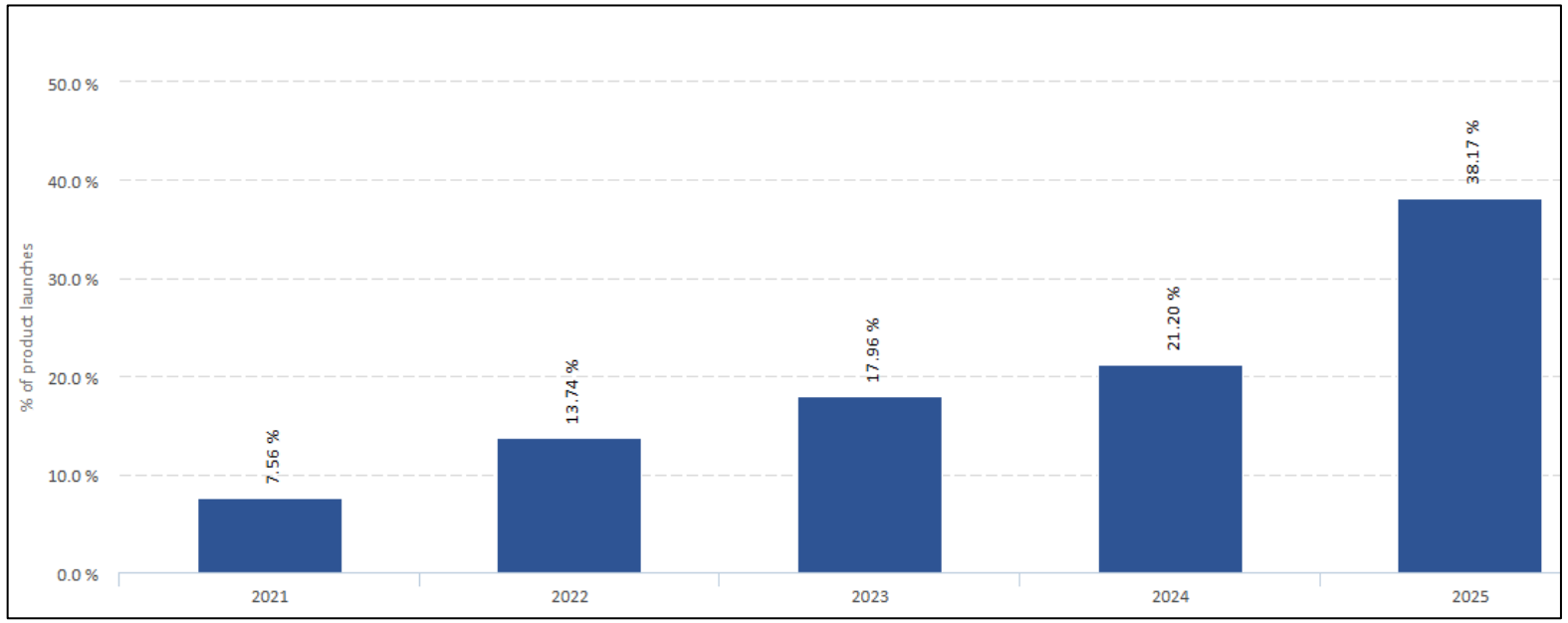
Ceramide NG

Development of launches in hair care with Ceramide NG



Almost 40% of launches with Ceramide NG in hair care since 2021 were in year 2025

Source: Innova New Products Database

Search Criteria

- Last 5 years
- Globally
- INCI: Ceramide NG
- All Hair care subcategories

- Product count vs year
- Total product count: 1019
- 26.01.2026

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How to Formulate

With Ceramide NG

How to use BergaCare Ceramide NG

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Formulation advice

- Applications: Conditioners, hair masks, scalp products, hair oils
- Use concentration: 0.05-0.20 %
- Dissolve in oil phase. If no oil phase is used, solubilizers are necessary
- Dissolution temperature 75-80 °C



How to use BergaCare Ceramide NG

Solubility

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+ Ceramides tend to recrystallize upon cooling if not kept dissolved or properly stabilized

Insoluble

+ Water
+ Glycols (Glycerin, Propanediol, Butylene Glycol)

Poor solubility

+ Pure linear alkanes with very low polarity(e.g. Isododecane alone → high recrystallization risk)

Soluble / Dispersible

+ Medium polarity esters
+ Triglycerides
+ Polar oils combined with fatty alcohols or waxy esters



Ensure everything is melted before adding other lipophilic components

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How to use BergaCare Ceramide NG

Recommended Solvents

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Best primary solvents

+ BergaCare IN2
+ BergaCare EM14
+ BergaCare EM16
+ BergaCare EM-LC
+ Palmac 750
+ BergaCare MCT 60/40

Supporting solvents

+ Fatty Alcohols (Cetearyl Alcohol, Stearyl Alcohol, Behenyl Alcohol)
+ Waxy Esters(Cetyl Palmitate, Lauryl Palmitate, Stearyl Stearate)

5-10% oil phase:
0,05-0,1% of
Ceramide NG

10-15% oil phase:
0,1-0,2% of
Ceramide NG

20% oil phase:
0,2-0,3% of
Ceramide NG

How to Prevent Crystal Formation?

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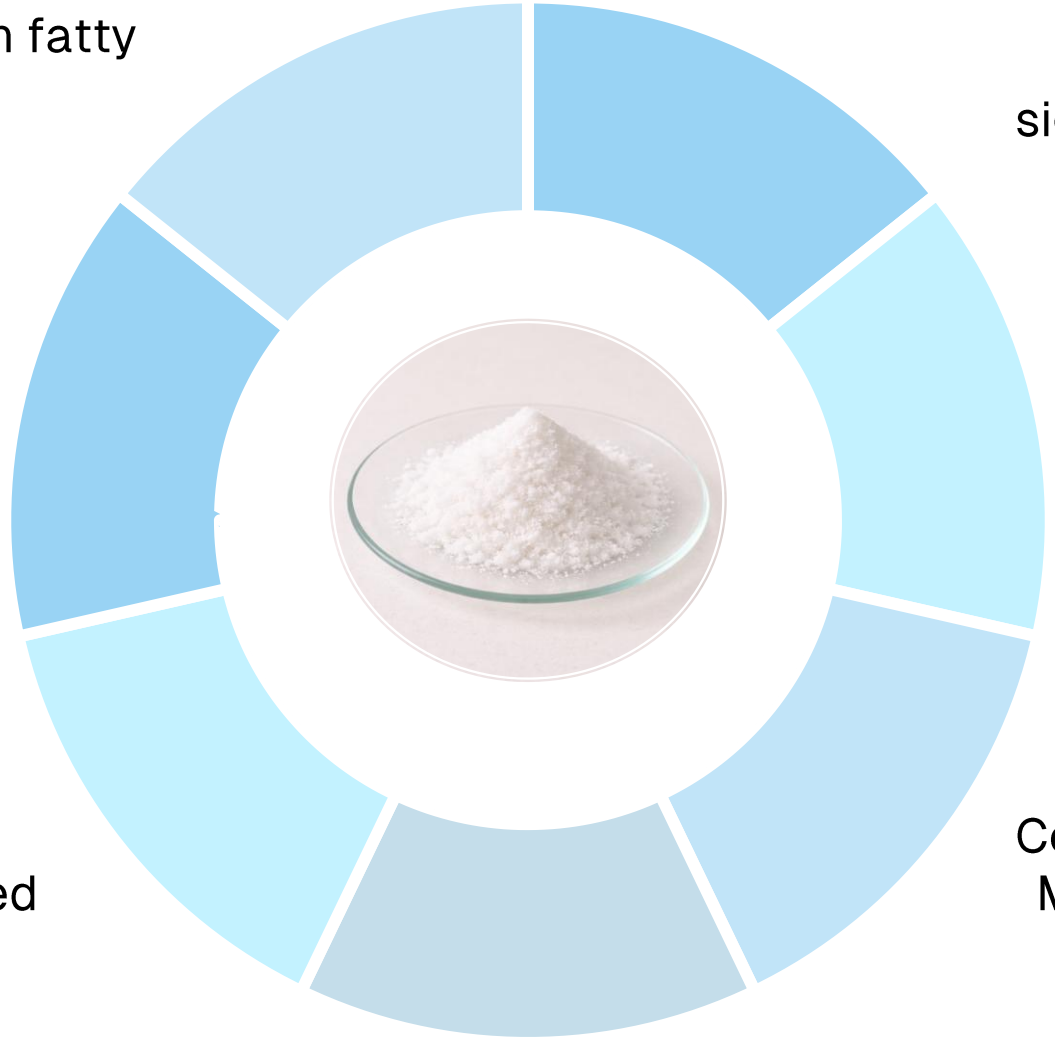
Add long-chain fatty alcohols

Polar esters show significantly better solubility than simple alkanes

Use a blend of mixed lipid systems, rather than a single emollient



Ensure full dissolution at 75-80 °C

Homogenize while oil phase is still fully melted

Cool slowly from 75 °C to 40 °C
Maintain gentle mixing during cooling

Scalp & Barrier Harmony Serum

A serum for the scalp and young emerging hair fibres

Phase	Product	INCI	Supplier	% (w/w)
A	Demin. Water	Aqua	-	Up to 100
	Glycerin	Glycerin	Various	5.00
	Cosphaderm® Pentiol natural	Pentylene Glycol	Cosphatec	5.00
B	BegaMuls ET1	Beta-Glucan, Pectin	Berg+Schmidt	2.00
	Keltrol® CG-SFT	Xanthan Gum	CP Kelco	0.30
	BergaCare Ceramide NG	Ceramide NG	Berg+Schmidt	0.10
	BergaCare EM-LC	Coco-Caprylate/Caprate	Berg+Schmidt	4.00
	BergaCare EM-CP	Cetyl Palmitate	Berg+Schmidt	1.00
	BergaCare EM-14	Isopropyl Myristate	Berg+Schmidt	3.00
	GreenWax™ GSC POF	Glyceryl Stearate Citrate	GreenLine	2.00
	Jojoba Oil	Simmondsia Chinensis Seed Oil	Henry Lamotte	3.00
	Cosphaderm® T-70 NON GMO ECO	Tocopherol, Helianthus Annuus (Sunflower) Seed Oil	Cosphatec	0.10
C	Citric Acid (25% aq.)	Aqua, Citric Acid	-	adjust pH

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Manufacturing Procedure

1. Weigh in all raw materials from Phase A and start stirring.
2. Weigh in Phase B and heat both phases to 75 °C.
3. Once both phases have reached the required temperature and everything has dissolved, combine Phases A and B and homogenize for one minute.
4. Cool down to below 40 °C under stirring and adjust the pH

pH = 5.2
Appearance: White off to beige
Viscosity (24h, Brookfield, 20 rpm) = 8820 mPas Internal Ref.: CNG 3.10-09.25

Deep Restore Ceramide Mask

Intensive restoration for resilient hair and scalp

Phase	Product	INCI	Supplier	% (w/w)
A	Demin. Water	Aqua	-	Up to 100
	Glycerin	Glycerin	Various	5.00
	BergaSom Sun 75H	Hydrogenated Lecithin	Berg+Schmidt	1.50
	Cosphaderm® Pentiol natural	Pentylene Glycol	Cosphatec	5.00
B	BergaCare GS SE	Glyceryl Stearate SE	Berg+Schmidt	3.50
	Keltrol® CG-SFT	Xanthan Gum	CP Kelco	0.20
	BergaCare Ceramide NG	Ceramide NG	Berg+Schmidt	0.10
	BergaCare EM-LC	Coco-Caprylate/Caprate	Berg+Schmidt	4.00
	Vegarol 1618 (50:50)	Cetearyl Alkohol	Berg+Schmidt	1.00
	BergaCare EM-14	Isopropyl Myristate	Berg+Schmidt	3.00
	Compritol 888 CG	Glyceryl Behenate	Gattefossé	1.00
	Palmac 750	Oleic Acid	Berg+Schmidt	1.50
	Cosphaderm® T-70 NON GMO ECO	Tocopherol, Helianthus Annuus (Sunflower) Seed Oil	Cosphatec	0.10
C	Citric Acid (25% aq.)	Aqua, Citric Acid	-	adjust pH

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2. Weigh in Phase B and heat both phases to 75 °C.
3. One both phases have reached the required temperature, and everything has dissolved, combine Phases A and B and homogenize for one minute.
4. Cool down to below 40 °C under stirring, adjust the pH.

pH = 5.00
Appearance: Beige to deep beige
Viscosity (24h, Brookfield, 20 rpm) = 27.000 mPas
Internal Ref.: CNG-03.11-0925
Stability: Stable for 3 months at 20°C, 40°

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Thank you!