



**Special  
chemicals**

# **SCH ShellCare® SCALP**

Multifunctional encapsulation for comprehensive scalp therapy

# Content

<b>01. Introduction</b>	3
<i>The Shell</i>	5
Composition	6
<b>02. Ingredients</b>	7
<b>03. Studies</b>	10
<i>In vitro</i> study	11
<i>In vivo</i> study + Questionnaire	13
<b>04. Specifications</b>	23



# 01

## Introduction



# 01

## Need in the cosmetic industry

- Growing demand for products that offer **effective solutions**
- **Traditional formulations** often do not address these needs in a comprehensive manner
- By treating the scalp, we can **improve the appearance and overall growth of hair**

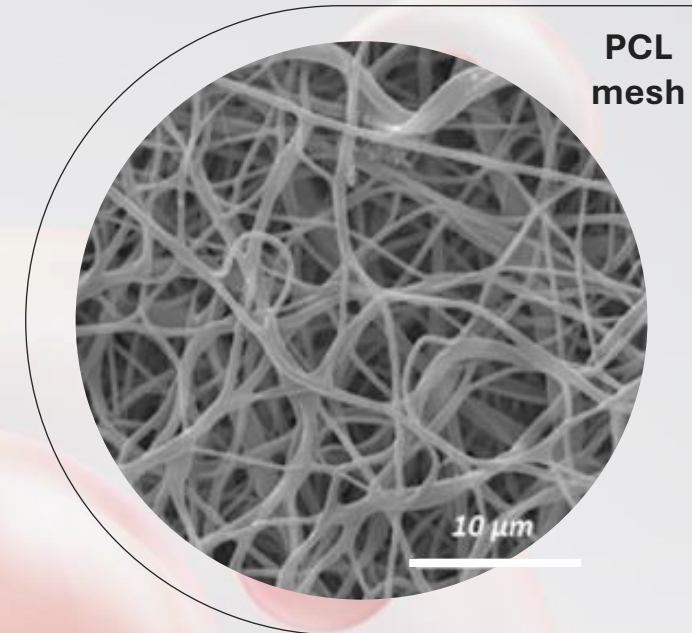
## Market demand and trends

- New trend → **Hair skinification**
- Scalp problems → **Hair problems** (flaking, hair loss...)
- Growing consumer demand for **multifunctional and effective products**

# 01

## ***The Shell***

The encapsulation in **polycaprolactone** provides a protective barrier that shields the active ingredients from environmental factors such as light, air and heat. This **protection** improves stability, ensuring that the ingredient **remains potent** until the time of application.



### **IMPROVED EFFICACY COMPARED TO FREE INGREDIENTS**

- Improved stability → Encapsulated ingredients **maintain their potency** and effectiveness over time.
- Improved penetration → **Improved absorption** into the skin for more noticeable results.
- Reduced irritation → **Gentler on the skin** as encapsulation minimizes direct contact with active ingredients.



# 01 Composition

## INGREDIENT

Aqua  
Polycaprolactone  
Xanthan gum  
**Copper tripeptide-1**  
**Tripeptide-10 citrulline**  
**Cucurbita pepo seed extract**  
**Ellagic acid**  
**Tetrahydrocurcumin**  
**Sodium hyaluronate**  
Polyvinyl alcohol  
Sorbitan stearate  
Propanediol  
1,2-Hexanediol  
Caprylyl glycol

## FUNCTION

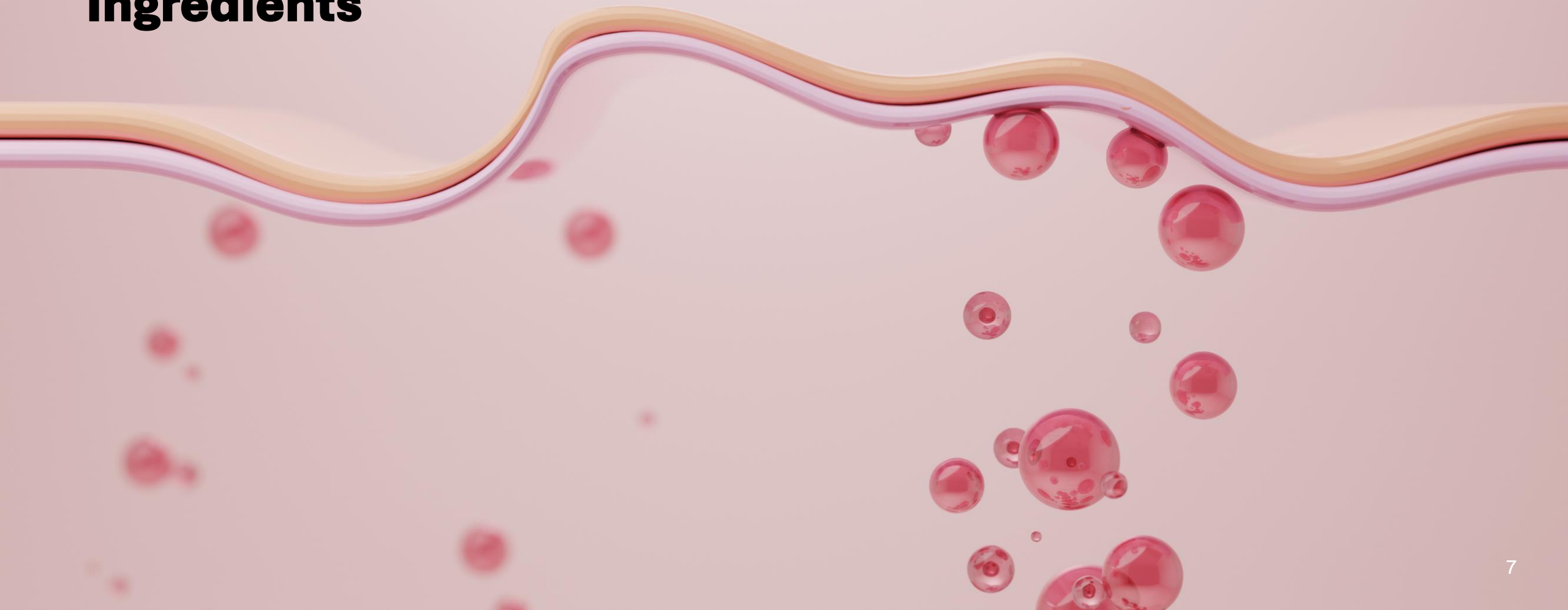
Solvent  
Capsule  
Thickener  
**Active**  
**Active**  
**Active**  
**Active**  
**Active**  
Emulsifier  
Emulsifier  
Preservative  
Preservative  
Preservative





# 02

## Ingredients



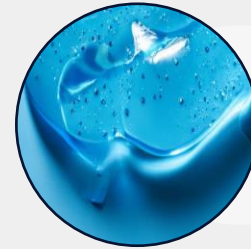
# 02 SCH ShellCare® SCALP

## Ingredients and mechanisms of action



### CUCURBITA PEPO SEED EXTRACT

- Inhibits 5-alpha reductase, blocking DHT.
- Anti-inflammatory and antioxidant rich in Vit E.



### COPPER TRIPEPTIDE-1

- Decreases inflammation by reducing prostaglandin production.
- It has an antioxidant effect.



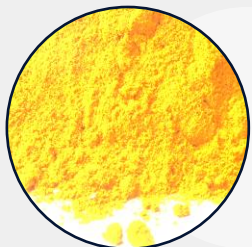
### ELLAGIC ACID

- Inhibits the TNF $\alpha$  factor, which is involved in hair loss.
- Anti-pollution and anti-inflammatory, protects the scalp from external agents.



### TRIPEPTIDE-10 CITRULLINE

- Mimics decorin, stimulating collagen production.
- Improves hair anchorage.



### TETRAHYDROCURCUMIN

- Powerful antioxidant that fights scalp aging.
- Works as an antiseptic, helping to keep the scalp healthy.



### SODIUM HYALURONATE

- Provides intense hydration.
- Increases elasticity, promoting a flexible and healthy hair environment.

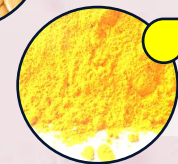
# 02 Mecanismos de acción

## Therapeutic targets

- Antioxidation
- Hydration
- Hair follicle protection
- Reduction of the fall
- Scalp elasticity
- Sebum control
- Microbiome control
- Protection against pollution
- Well-being and comfort



Inhibits 5-alpha reductase, blocking DHT, **decreasing hair loss**.  
Anti-inflammatory and antioxidant rich in vitamin E.



Powerful antioxidant that fights scalp aging.  
Works as an antiseptic, **keeping the scalp healthy**.



Inhibits the TNF $\alpha$  factor, which is **involved in hair loss**.  
Anti-pollution and anti-inflammatory, **protects the scalp**.



**Decreases inflammation** by reducing prostaglandin production.  
It has an **antioxidant** effect.



Mimics decorin, stimulating **collagen production**.  
Improves hair **anchorage**.



Provides **intense hydration**.  
Increases elasticity, promoting a **flexible and healthy hair environment**.



# 03 Studies

520 ml  
3.3 ORB



# 03 *In vitro* study

## Anti-inflammatory effect

SCH ShellCare® SCALP (%)	↓TNFα (%)	↓IL-6 (%)
1,5	-36,2	-27,09
3	-33,42	26,69

Demonstrates **anti-inflammatory effect**.

Contributes to a **calmer, healthier scalp**.



# 03 *In vitro* study

## Antioxidant potential (24h)

SCH ShellCare® SCALP (%)	Enhancement of antioxidant potential (%)
1,5	30,13
3	33,62

Demonstrates ability to **protect scalp cells from oxidative stress.**

Supports a **healthier scalp environment** and improved hair growth conditions.



# 03 *In vivo* study

## Conditions



30% hydroalcoholic solution with **SCH ShellCare® SCALP at 3%**



Hydroalcoholic solution at 30% (Placebo)

<b>Volunteers</b>	40 volunteers (20 placebo + 20 active)
<b>Demography</b>	Men and women ages 20 to 56 with long hair of any type
<b>Duration</b>	150-day blinded study
<b>Application area</b>	Scalp
<b>Frequency</b>	Daily at night
<b>Recommended amount</b>	Enough to cover the scalp without dripping
<b>Tested product</b>	30% hydroalcoholic solution with <b>SCH ShellCare® SCALP at 3%</b>
<b>Time frame</b>	Summer/Fall 2024

# 03 Clinical trials

## Reduction of the fall



The active reaches the hair follicle at approximately  $t = 20d$ , so the actual activity time would be 130 days.

Equipment and instrumentation	Determination
Combing test	Anti-hair loss effect after combing
Washing test	Anti-hair loss effect after washing

After 90 days of study, a reduction in hair loss is clearly seen compared to placebo, which suffers an increase in hair loss (expected behavior).

After 150 days we obtain a **reduction of 44,83%** of the fall in the active group. The reduction in hair loss in the placebo group is consistent due to the alcohol content of the sample (vasodilator) and the massaging effect when applying the product, as it influences follicle activity.

Group	t = 0d	t = 90d	t = 150d	% (150d)
	CT + WT	CT + WT	CT + WT	
<b>Placebo</b>	119	153	94	<b>-20,7%</b>
<b>Active (3%)</b>	149	135	82	<b>-44,83%</b>

Mean values of hair loss for the PLACEBO group and the ACTIVE group



# 03 Clinical trials

## Reduction of the fall

Active 3% group	t = 0d	t = 90d
<i>Washing test</i> (Volunteer 2)		
<i>Washing test</i> (Volunteer 20)		
<i>Combing test</i> (Volunteer 20)		

**CLAIM PROVEN**

SCH ShellCare® SCALP has  
**ANTI-HAIR LOSS EFFECTIVENESS**



# 03 Clinical trials

## Hair density

Equipment and instrumentation	Determination
Image analysis (trichoscopy)	Scalp protection and determination of the condition of hair follicles

Group	t = 0d	t = 90d	T=150d	% (150d)
Placebo	235	216	211	-10,51%
Active (3%)	203	240	247	21,76%

Mean values of hair density for the PLACEBO group and the ACTIVE group





Hair density is defined as the **number of hairs present in a unit area (cm<sup>2</sup>)**. The table shows a **21,76% increase in hair density** in volunteers after 150 days of using the product with the active ingredient.

The average difference is 44 hairs with the placebo, considering that the scalp has an approximate surface area of 300 cm<sup>2</sup>, that's **13200 new hairs in 5 months of use of the product.**



# 03 Clinical trials

## Reduction of hair loss and density




Active 3% group	t = 0d	t = 150d
Micro camera (Volunteer 16)		
Micro camera (Volunteer 13)		

**CLAIM PROVEN**

SCH ShellCare® SCALP  
increases **HAIR DENSITY**

# 03 Clinical trials

## Reduction of hair loss and density

Active 3% group	t = 0d	t = 90d
Overview (Volunteer 3)		
Overview (Volunteer 18)		



# 03 Clinical trials

## Hair density: Ratio of thick hair to fine hair

Group	Thick hair (N)			% (150d)
	t = 0d	t = 90d	t = 150d	
Placebo	170,5	154,8	148,0	<b>-13,18%</b>
Active (3%)	146,8	177,6	172,9	<b>17,41%</b>

Mean values of the amount of thick hair for the PLACEBO group and the ACTIVE group.

Group	Fine hair (N)			% (150d)
	t = 0d	t = 90d	t = 150d	
Placebo	46,2	45,1	46,2	<b>-0,23%</b>
Active (3%)	39,2	43,8	55,0	<b>38,04%</b>

Mean values of the amount of fine (or new) hair for the PLACEBO group and the ACTIVE group.

The active ingredient is able to significantly promote the amount of new hair or baby hairs (fine until it reaches the outer shaft), with an **increase of 38,04%**. In addition, it has a very good activity maintaining the growth phases, since an **increase in thick hair is also perceived, which occurs by 17,41%**. As for placebo, it decreases in both hair types.

**CLAIM PROVEN**

SCH ShellCare® SCALP promotes the **GROWTH OF NEW HAIR**

Equipment and instrumentation	Determination
Image analysis (trichoscopy)	Scalp protection and determination of the condition of hair follicles

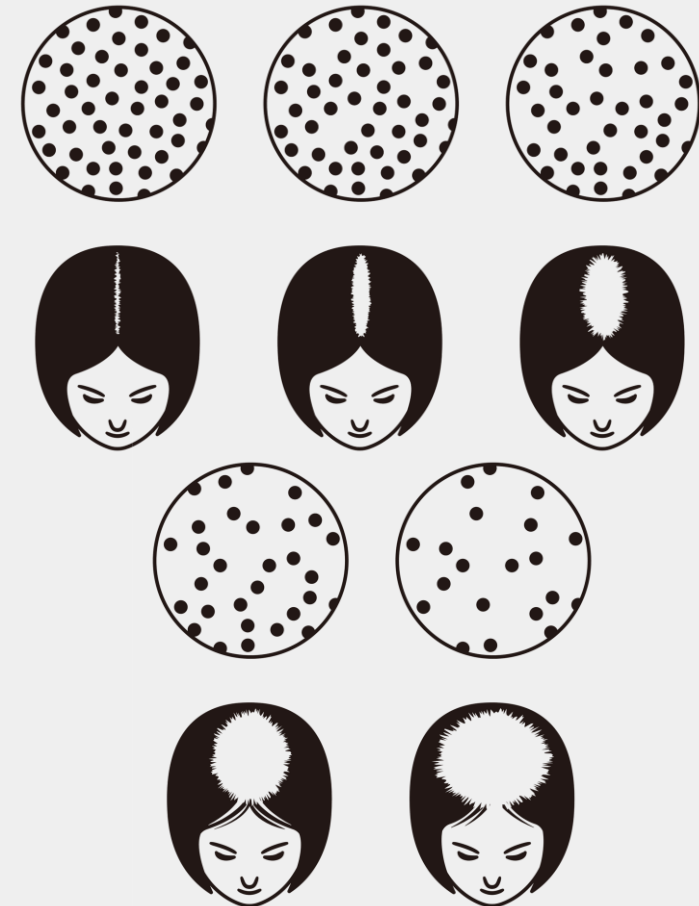
# 03 Clinical trials

## Hair density: Number of follicular units

Group	t = 0d	t = 90d	t = 150d	% (150d)
Placebo	128	121	119	-7%
Active (3%)	115	130	128	<b>10,52%</b>

Mean values of the number of follicular units for the PLACEBO group and the ACTIVE group.

The table shows a 10,52% increase in the number of follicular units after 150 days of using the product with the active ingredient. This equates to a **17,52% increase in active follicular units** compared to the results obtained in the placebo group.





# 03 *In vivo* study

## Questionnaire → Subjective effectiveness

PLEASANT new hair appears

TAKES CARE OF YOUR HAIR

HAIR GROWTH removes sebum

clean hair for longer time ADDS VOLUME

MOISTURIZES freshness when applied

IMPROVES APPEARANCE

**94,74%** notice less falling

**84,21%** see more hair

**68,42%** notice thicker hair





# 03 Conclusions and claims

*Scientifically proven claims with statistical evidence in 30% hydroalcoholic solution:*

## **REDUCTION OF HAIR FALL**

Active ingredient capable of stopping hair loss by up to 44,83%.

## **INCREASED HAIR DENSITY**

Active ingredient that increases the number of hairs by up to 27%.

## **INCREASE IN THE NUMBER OF TOTAL FOLLICLES AND FOLLICLES WITH MORE HAIRS**

Active ingredient that increases the number of active follicular units and also increases the number of hairs in follicular units.



# 04

## Specifications





## 04 Technical specifications

PARAMETER	SPECIFICATION
Aspect	Viscous solution
State	Liquid
Color	Sage green
Odor	Characteristic
Dosage (%)	3 - 5
Solubility	Water soluble
<b>Regulatory status</b>	
Europe	OK
China	OK
United States	OK



# SCH ShellCare® SCALP

Actives for the skin

