

# ReMedium

scalp care solution

EXOSOME HAIR FILL

*Silk*

# ReMedium Silk Exosome Hair Fill

Product Presentation (2.5ml)

Forever 18 International's ReMedium Silk Exosome Hair Fill is the first Adipose Stem Cell Exosome hair filler in the world, developed with Forever 18 International's exclusive technology for scalp rejuvenation and hair growth.

This PREMIUM Exosome Hair Filler, a groundbreaking scalp care solution launched in July 2023. This innovative product combines premium exosomes with a cutting-edge formula. The Exosome Hair Filler offers a comprehensive solution, manufactured using state-of-the-art technology and the latest scientific research. It deeply hydrates, moisturizes, and restores the scalp's natural balance, nourishes, repairs, and revitalizes the scalp for healthier, fuller hair growth.

## Active Key Ingredients

Human Adipose Stromal Cell Exosomes	1%
Diaminopyrimidine Oxide(minoxidil Alternative)	1%
Leontopodium Alpinum Callus Culture Extract	1%
Aloe Vera Vesicles	2%

*Silk  
exosome  
hair  
fill*

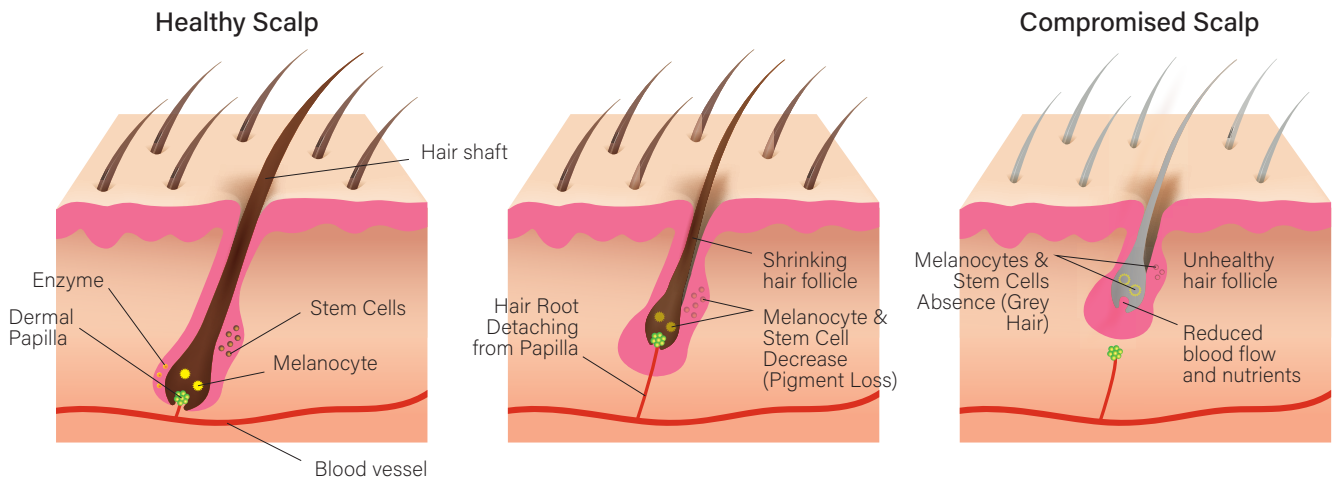


## Scalp Aging & Hair Loss

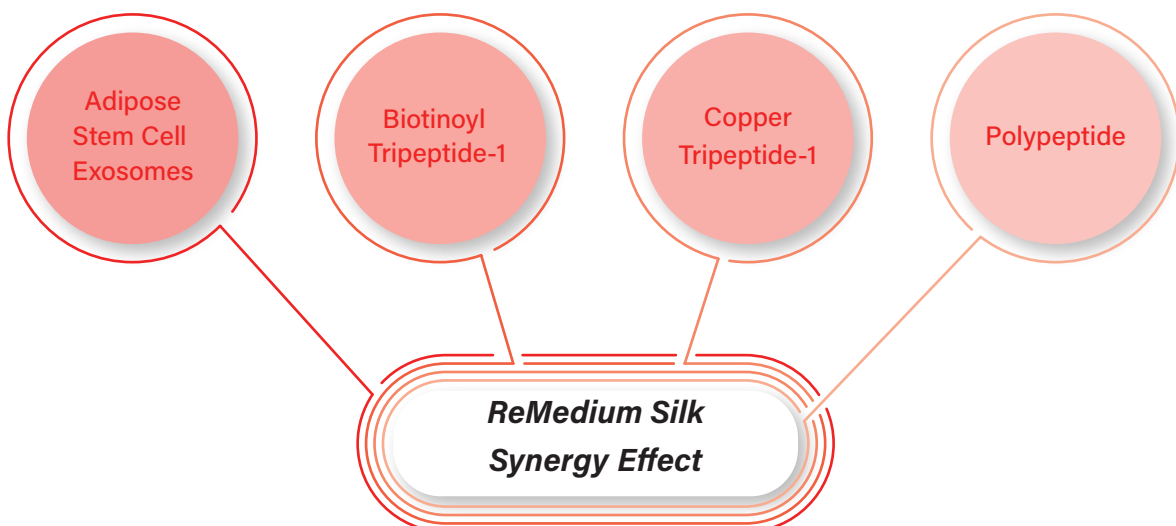
Alopecia and other hair anomalies can happen due to an array of causes, the most common being:

1. Loss of collagen in hair follicles due to aging
2. Loss of capillaries in the scalp, cutting oxygen and nutrient supply to the follicles
3. Decrease in follicle size and increased oil production due to DHT hormone expression
4. Reduced scalp regeneration and healing capacity due to compromised skin barrier
5. Reduced pigment transport due to loss of melanocytes (grey hair)

## What Scalp Aging Looks Like



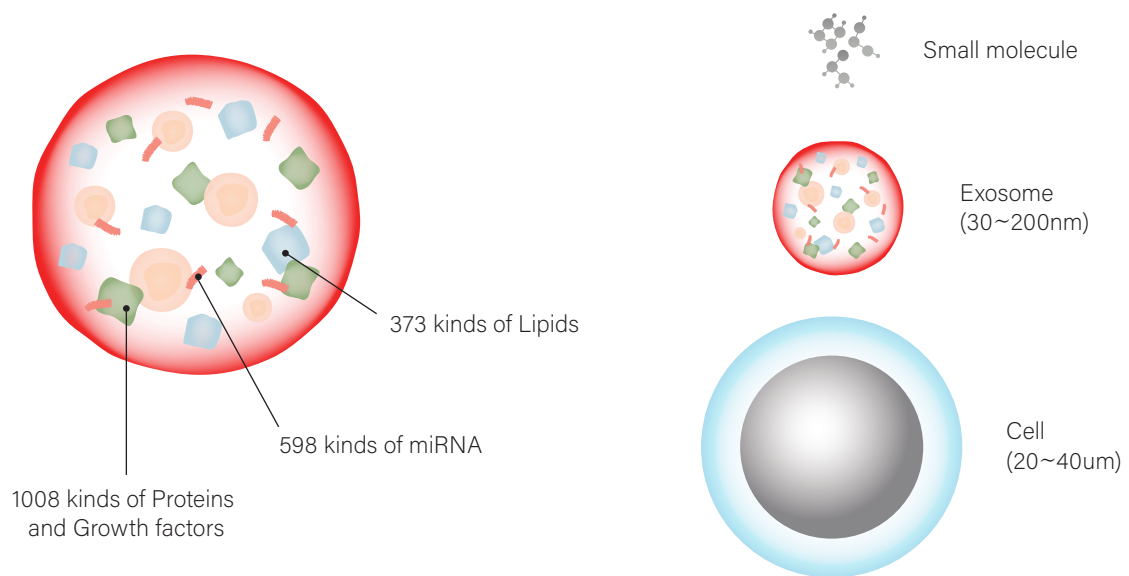
## ReMedium Silk for Scalp Rejuvenation & Hair Growth



# Main Ingredient

## ASC Exosomes

Exosomes are tiny extracellular vesicles about 100 nanometres in size. They are the most important mechanism in cell-to-cell communication in our bodies, acting as messengers delivering lipids, proteins and RNA that activate biological responses in the recipient cells.



Pure Stem Cell Exosome Composition

Complexity Size

## Exosome Benefits

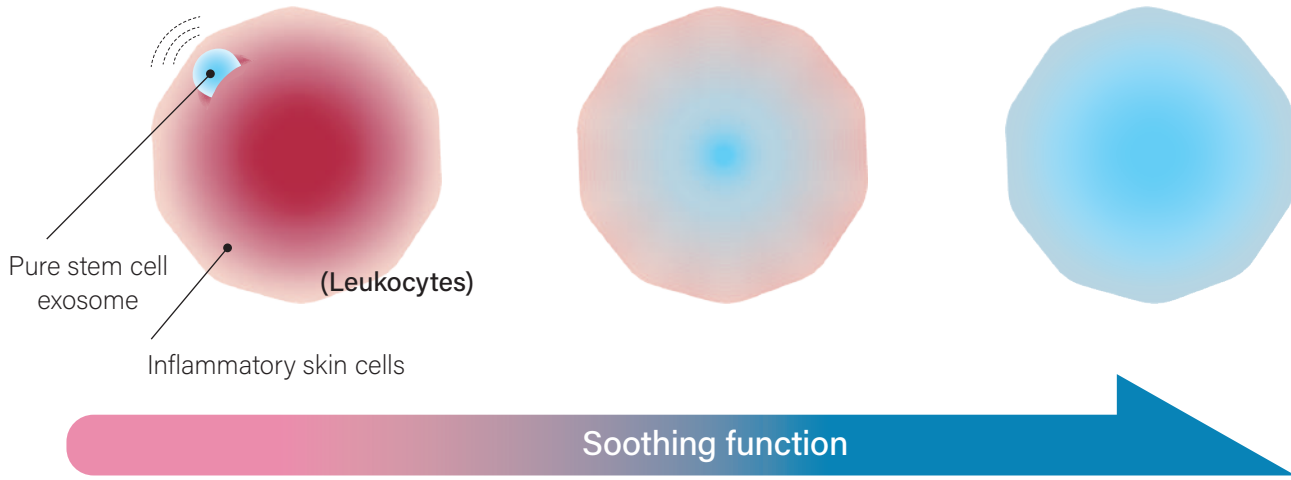
### 1. Anti-inflammatory Action

Exosomes have a big role in relieving inflammation, transporting the enzymes needed in the generation of extracellular Adenosine, a powerful anti-inflammatory agent which regulates immune activity and subsequently prevents excessive inflammation in the scalp and hair follicles.

### 2. Promotion of Skin Barrier Structural Components

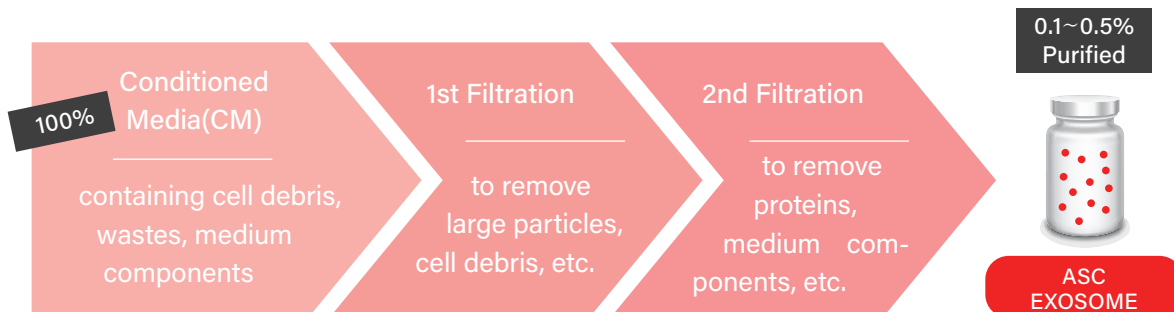
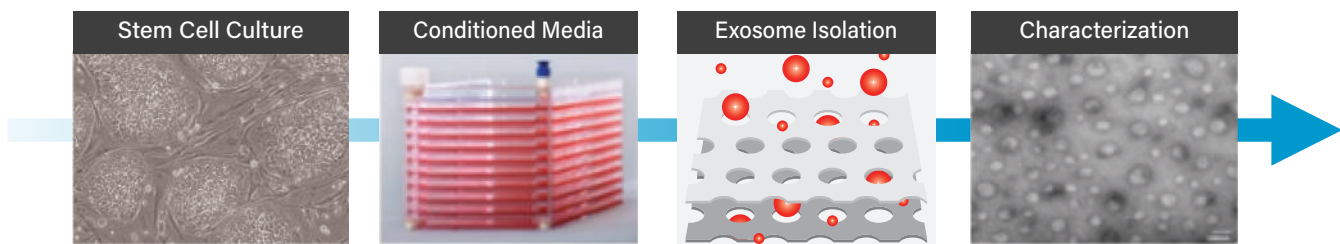
Exosomes promote the synthesis of critical components of the skin barrier - Sphingolipids. These are essential molecules of the epidermis that intervene in the modulation of our skin cells, they are involved in ceramide production, keratinocyte proliferation and differentiation, as well as the production of a key epidermal immune element (CAMP), maintaining skin barrier health.

## Exosome Scalp Anti-inflammatory Action



## Isolation Technology

The conventional method to isolate and purify Exosomes was Ultracentrifugation. However there is always a certain degree of Exosome destruction with this method. For this reason ReMedium Silk Hair Fill's Exosomes are isolated with a novel patented filtering technology which successfully preserves the quality of every single Exosome.





### Main Ingredient

Water, Alcohol, Propylene Glycol, Propanediol, Aloe Vera Vesicles, Diaminopyrimidine Oxide, Human Adipose Stromal Cell Conditioned Media, Leontopodium Alpinum Callus Culture Extract, Cynanchum Atratum Extract, Aloe Barbadensis Leaf Extract, Dioscorea Japonica Root Extract, Laminaria Japonica Extract, Ulmus Davidiana Root Extract, Viola Mandshurica Flower Extract, Butylene Glycol, Sodium Hyaluronate, Caffeine, Niacinamide, Panthenol, Caprylyl/Capryl Glucoside, Polyglyceryl-10 Laurate, Glycerin, Polyglyceryl-10 Oleate, Copper Tripeptide-1, Alanine/Histidine/Lysine, Polypeptide Copper HCl, Acetyl Tetrapeptide-3, Acetyl Hexapeptide-1, Menthol, Arginine, Salicylic Acid, Ethylhexylglycerin, Disodium EDTA

# Active Ingredient

## 01 Biotinoyl Tripeptide-1

Biotin Tripeptide-1 is a three amino acid peptide that combines the famous collagen fragment, GHK with Biotin, a well-known supplement for stronger hair and nails. The resulting Biotinoyl Tripeptide-1 has shown hair regrowth effects comparable to those of Minoxidil.

### Biotinoyl Tripeptide-1 Benefits

#### 1. Hair Cell Activation

Promotes keratinocyte proliferation at the follicle base and helps optimal hair anchorage by stimulating the synthesis of adhesion molecules - Laminin 5 and Collagen IV. This results in stronger hair that stays in place for longer.

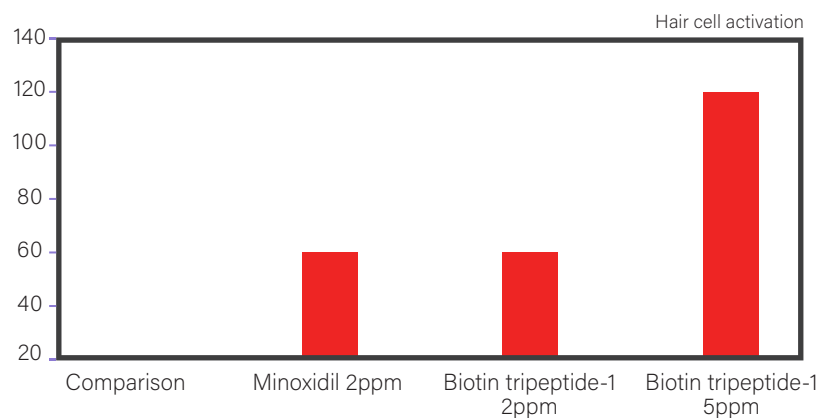
#### 2. Gene Expression Stimulation

Stimulates the expression of the Ki-67 gene, a proliferation marker protein associated with cellular proliferation as well as tissue recovery, supporting the restoration of damaged hair follicles.

#### 3. Hair Cell Metabolism Regulation

Promotes scalp microcirculation and stimulates cell communication, improving oxygen and nutrient supply to the hair follicles. This reduces hair follicle atrophy and signs of scalp aging.

Biotinoyl Tripeptide-1 Minoxidil Comparison Study  
Human Hair Follicle Culture (14 Days)



#### Test results:

- ▶ Similar activity at the same concentration (2ppm)
- ▶ Significant hair production activity increase at higher concentration (5ppm)
- ▶ No irritation or side effects at the recommended dosage

## 02 Copper Tripeptide-1

Copper Tripeptide-1 (GHK-Cu) is a copper-peptide complex found naturally in bodily fluids such as plasma and saliva. With copper depletion being one of the causes for signs of skin aging and hair thinning, this tripeptide is quickly becoming a popular ingredient for hair and scalp treatments.

### Copper Tripeptide-1 Benefits

#### 1. Hair Follicle Enlargement

While studying GHK-Cu's wound healing properties, an enlargement of hair follicles around the area was found which eventually led to the discovery that copper peptides stimulate hair growth by stimulating follicular cell proliferation, resulting in larger follicles that produce longer and thicker hair.

#### 2. Hair Growth Cycle Regulation

Copper peptides stimulate and prolong the hair growth phase (Anagen), resulting in more time for active hair regrowth and thicker hair strands. They are also involved in shortening the inactive phase of the hair follicles (Telogen), decreasing hair shedding and preventing premature follicle death.

#### 3. DHT Hormone Inhibition

Dihydrotestosterone (DHT), a hormone converted from testosterone, is the main cause of androgenetic hair loss. DHT is converted thanks to an enzyme known as 5-alpha reductase, which peptides have been shown to obstruct. In this way, copper peptides block DHT production and prevent further hair loss.

## 03 Polypeptide

#### 1. sh-Polypeptide-1 (FGF2)

Synthesized copy of the human gene coding for Basic Fibroblast Growth Factor (FGF2). Stimulates fibroblast and keratinocyte cell growth and proliferation, as well as the synthesis of collagen and other extracellular matrix components, promoting skin barrier health.

#### 2. sh-Polypeptide-4 (SCF)

Synthesized copy of the human gene coding for Stem Cell Factor (SCF). Plays an important role in the formation of blood cells and melanocytes, regulating the survival and proliferation of melanocytes in adults to maintain a normal pigment transport (grey hair prevention).

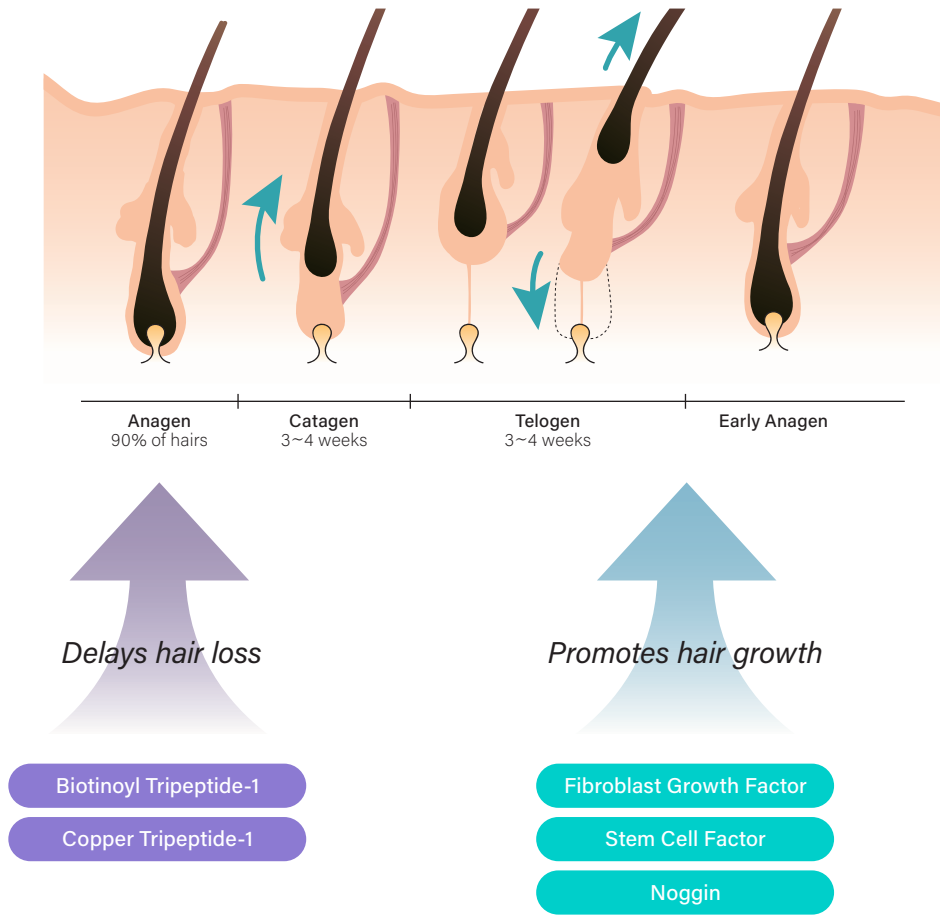
#### 3. sh-Polypeptide-12 (NOG)

Synthesized copy of the human gene coding for Noggin protein (NOG). Noggin is a signaling molecule that plays a role in tissue development and the derivation of specialized cells. Studies show that Noggin signaling is required for induction of the hair follicle growth phase (Anagen).



## ReMedium Silk Exosome Hair Fill & The Hair Growth Cycle

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## ReMedium Silk Exosome Hair Fill Case Study Results

<Androgen Alopecia Case>



<Before>      <6 months after>

<Female Pattern Androgen Alopecia Case>



<Before>      <17 months after>

Reference: Hirotaro Fukuoka, MD, PhD; Hirotaka Suga, MD, PhD; Keigo Narita, MD; Rei Watanabe, MD; Satoru Shintani, DDS, PhD



# Silk exosome

EXOSOME HAIR FILL

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# hair fill



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