

BIO-Placenta Hair

: Improvement of scalp condition

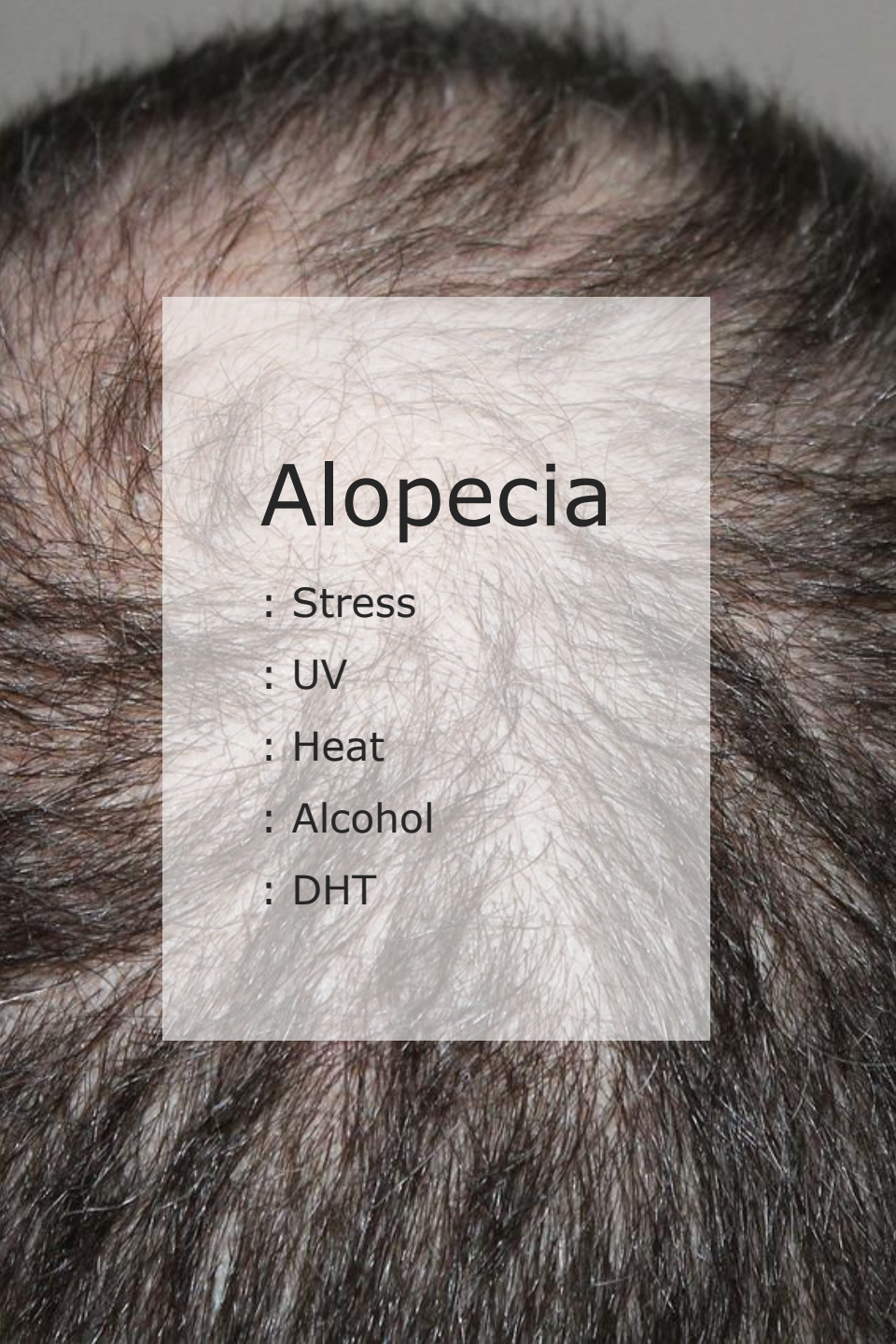


INTRODUCTION



PLACENTA

: Determine the number of hair
(Peptide, Amino acids, Vitamin)

A close-up photograph of a person's scalp showing significant hair thinning. The hair is dark brown and appears sparse, with the skin visible through the strands. A semi-transparent white rectangular box is overlaid on the left side of the image, containing text.

Alopecia

- : Stress
- : UV
- : Heat
- : Alcohol
- : DHT

A close-up photograph of a person's hair, showing a thick and healthy texture. The hair is dark brown and appears to be a ponytail or a section of hair pulled together. A semi-transparent dark grey rectangular box is overlaid on the right side of the image, containing text.

BIO- Placenta Hair

- : Improvement of
scalp condition

:BIO-Placenta: Hair Advantage

	Human Placenta	Effect	BIO-Placenta Hair
Growth Factor	FGF	Promote follicular growth	FGF
	VEGF	Promote formation of new blood vessels	VEGF
	IGF	Promote of proliferation of hair matrix cell	IGF
	KGF	Developing dermal papilla	KGF
Essential Factor	Vitamin	Improve the quality of hair	Vitamin: Vitamin E
	Amino acids	Stimulate hair regrowth	Amino acids: L-Arginine
Cooling Factor	-	Cooling hair scalp	Eucalyptus leaf Extract

:Hair Loss

Hair is a symbol of health, beauty and personality.

The loss of 50 to 150 hairs per day is a consequence of a healthy hair cycle.

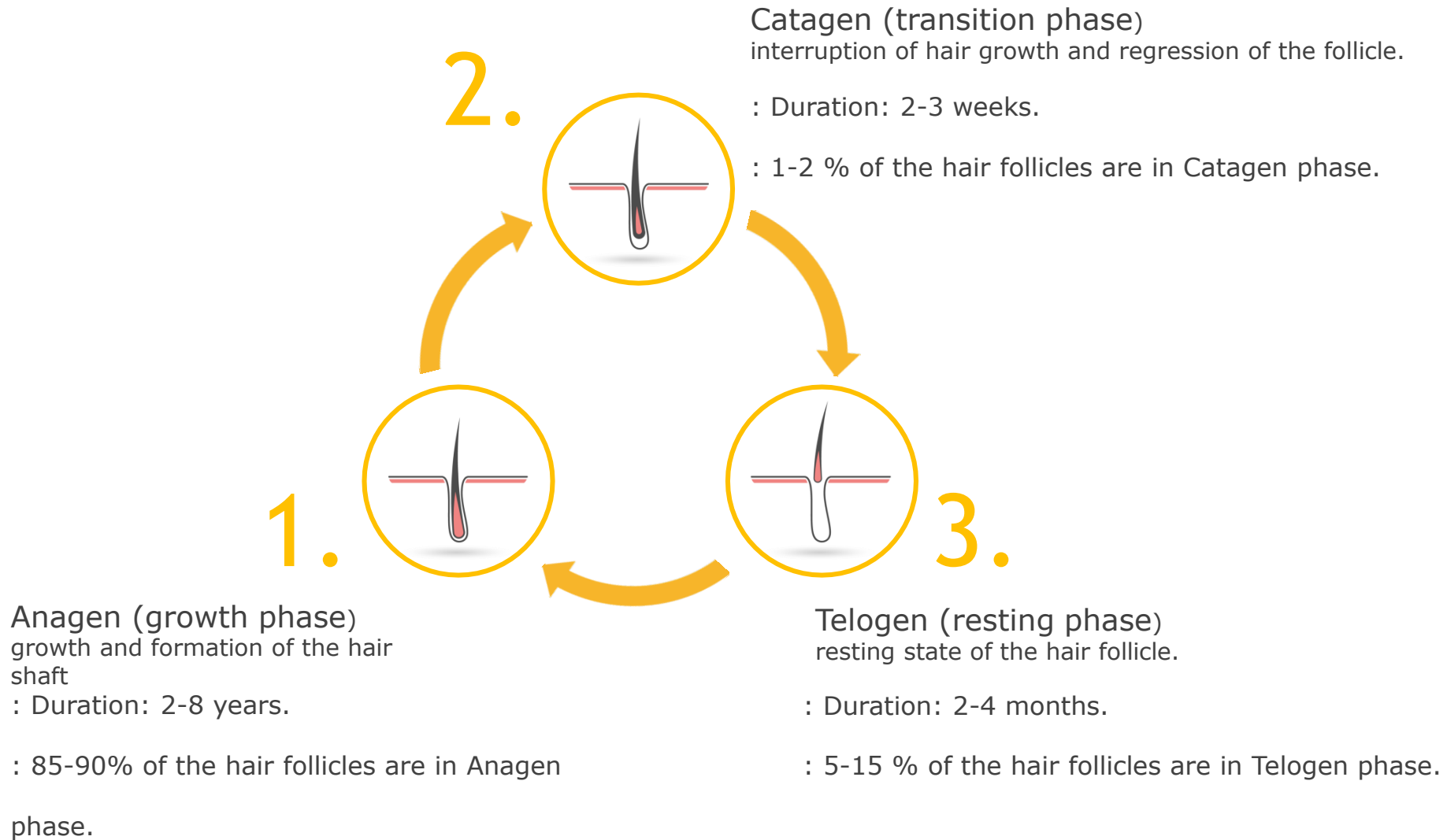
However, **when this cycle is altered**, the known baldness appears

- : It directly influences our character and mood.
- : It may diminish self-confidence and self-esteem.
- : It causes an aged and unattractive appearance.

Hair loss is one of the main concerns regarding personal appearance



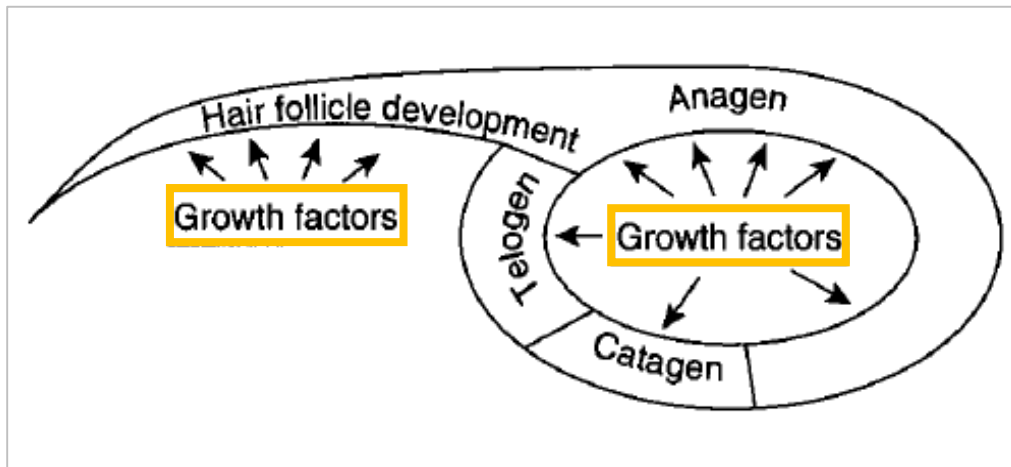
:Hair Cycle



Hair Loss is caused by hair cycle's alteration

:The correlation between Growth factors and hair cycle

Growth Factor Families involved in Hair Growth



Reference : GROWTH FACTORS IN HAIR ORGAN DEVELOPMENT AND THE HAIR GROWTH CYCLE / 0733-8635/96

Fibroblast growth factor family

:Acidic fibroblast growth factor(aFGF)

:Basic fibroblast growth factor(bFGF)

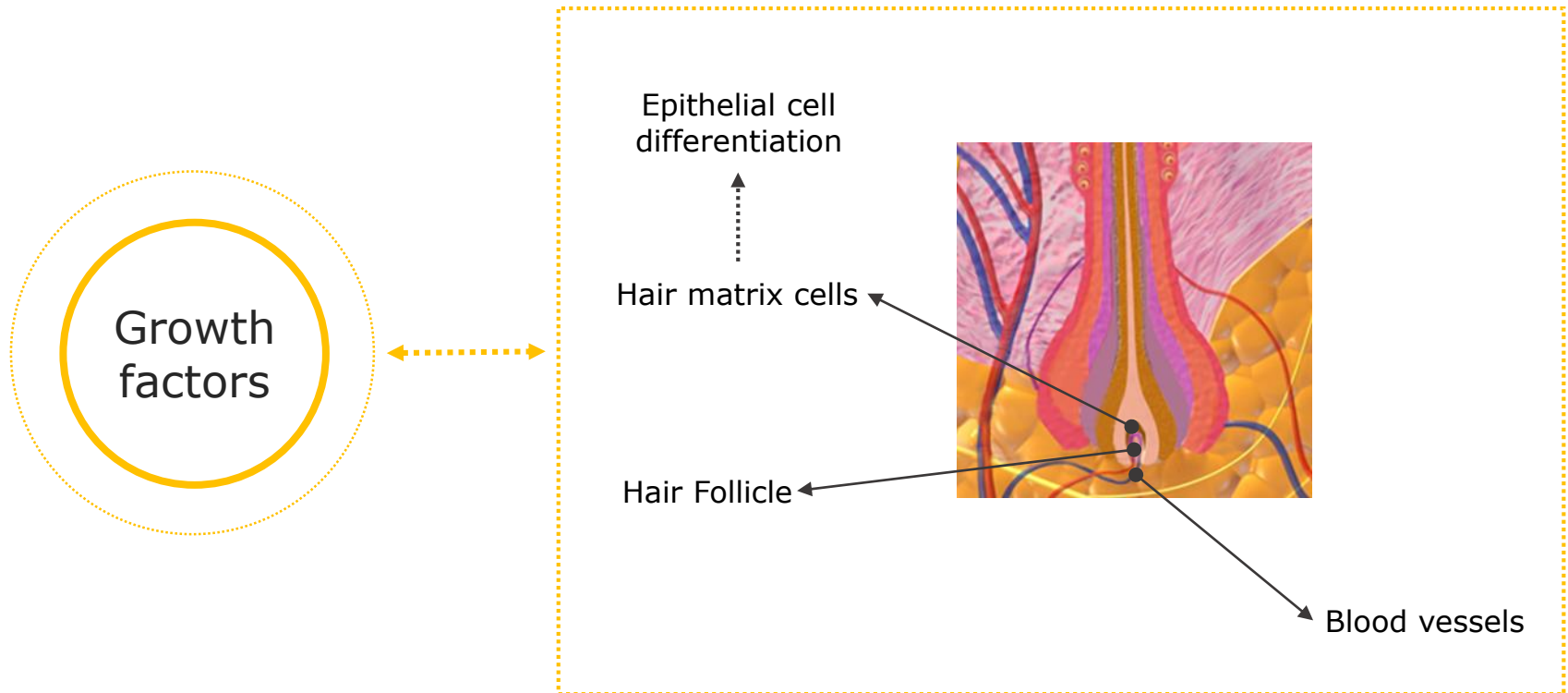
:Keratinocyte growth factor(KGF)

Insulin-like growth factor

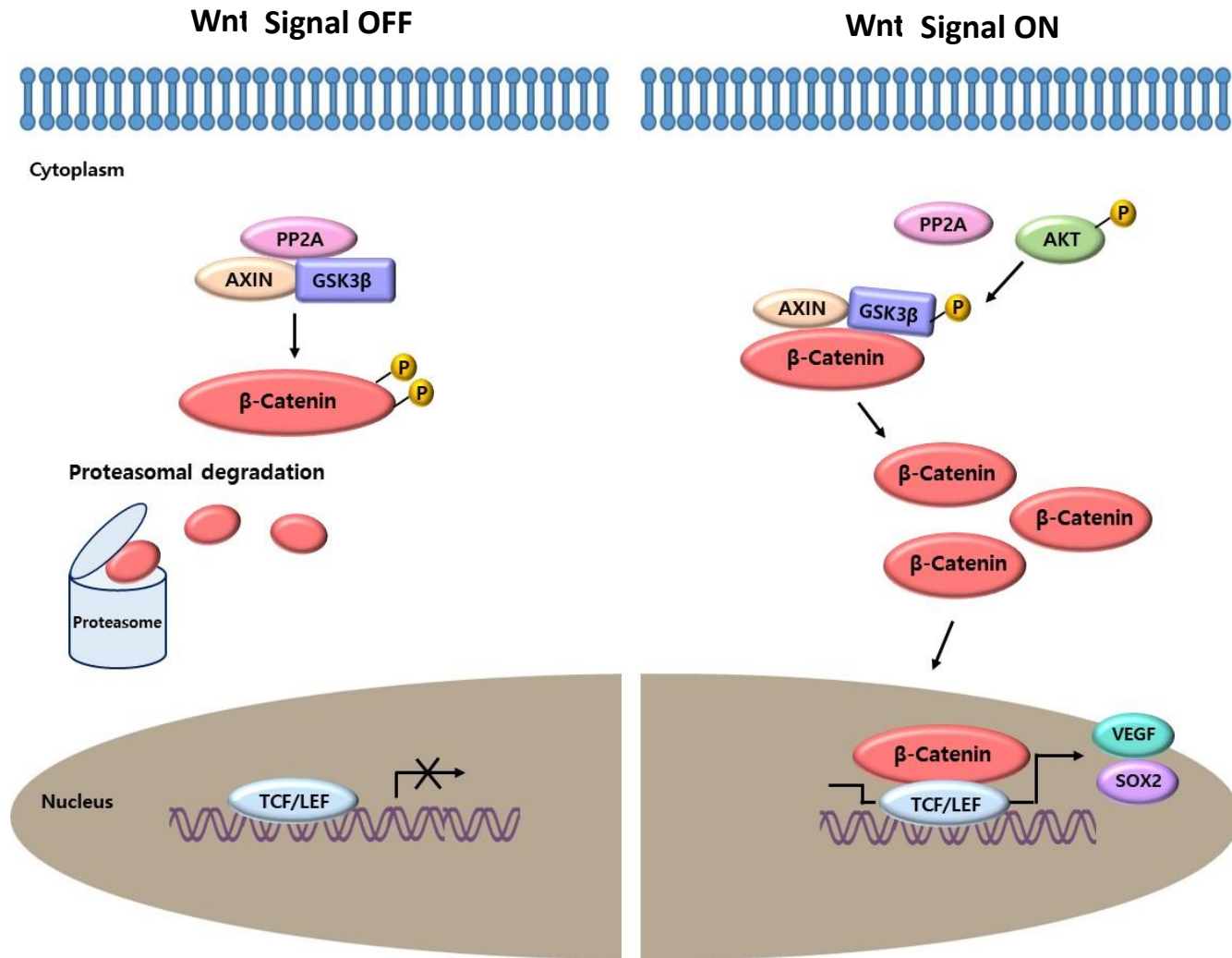
Vascular endothelial growth factor

Folliculogenesis and the hair cycle are regulated by growth factors

:The correlation between Growth factors and hair cycle



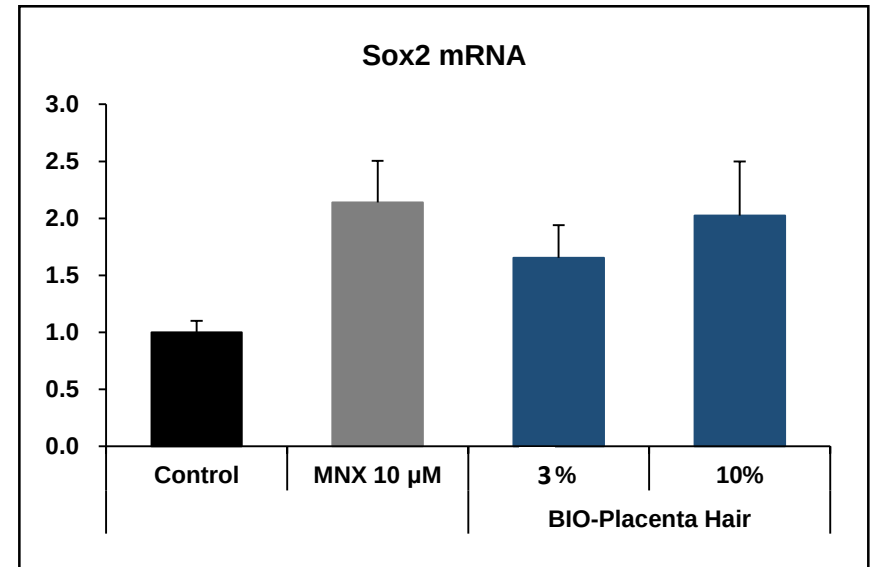
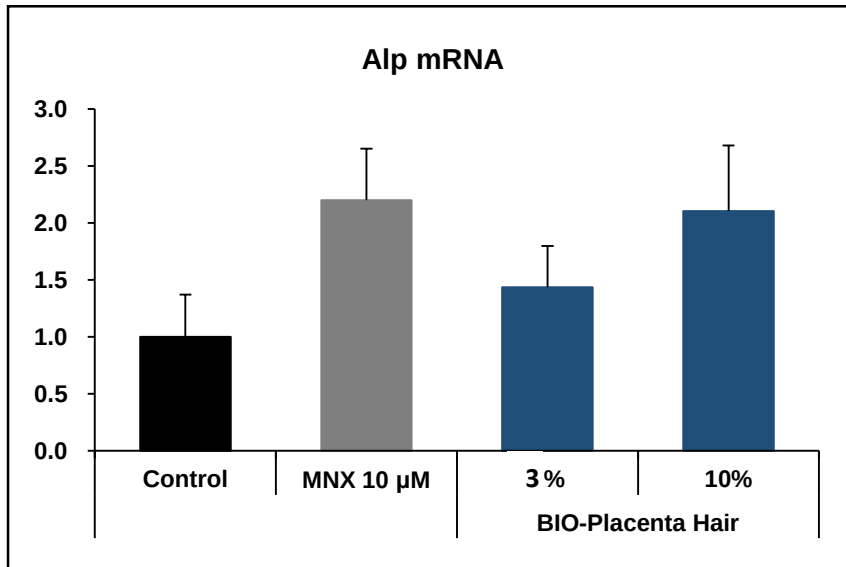
Growth factors regulates expression of different cell types forming the hair organ



► Once β -catenin is translocated into nucleus via Wnt signaling pathway, target gene is expressed

: mRNA expression

Detection method : qRT-PCR



ALP : Alkaline phosphatase

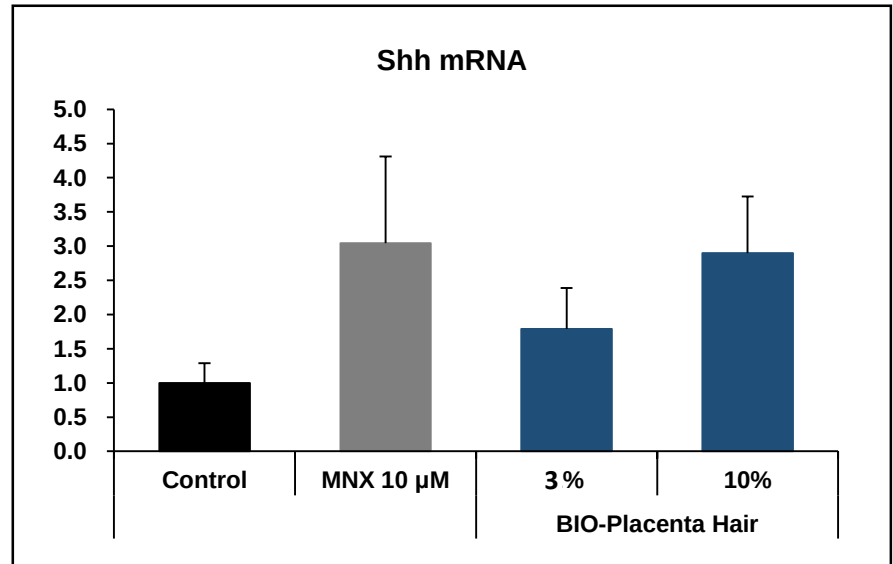
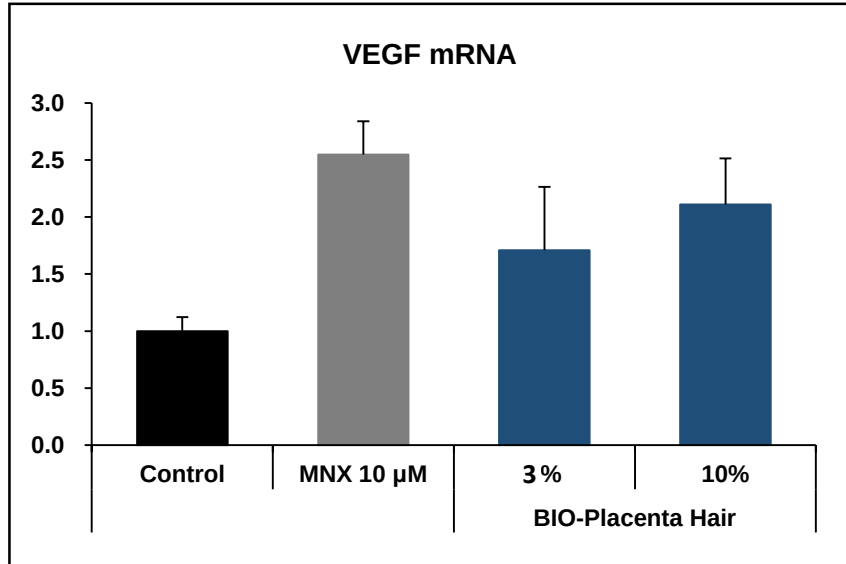
Expressed in Anagen to Catagen phase while hair cycle

Sox2 : Marker for mesenchymal stem cell

► BIO-Placenta Hair promotes hair growth by inducing Sox2 & Alp expression

: mRNA differentiation

Detection method : qRT-PCR



VEGF : Vascular endothelial growth factor

Stimulates follicle growth and formation of new blood vessel

Shh : Related to hair follicle tissue formation

► BIO-Placenta Hair promotes growth of hair follicle by inducing VEGF & Shh expression

: Protein Expression profile

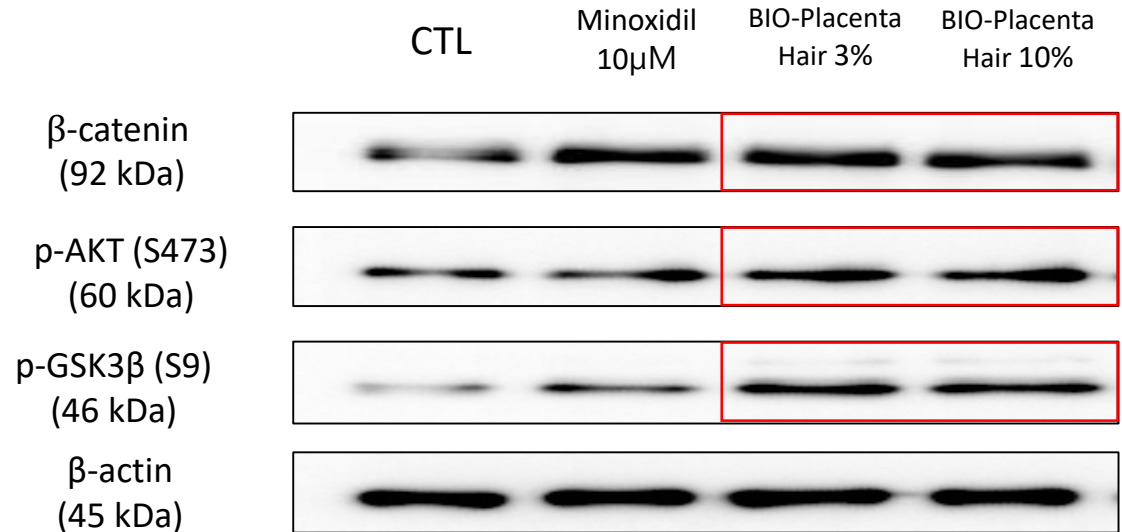
Detection method : Western blot

β -catenin : positive regulator on hair growth

p-AKT : Phosphorylated Wnt/b-catenin signaling transmitter

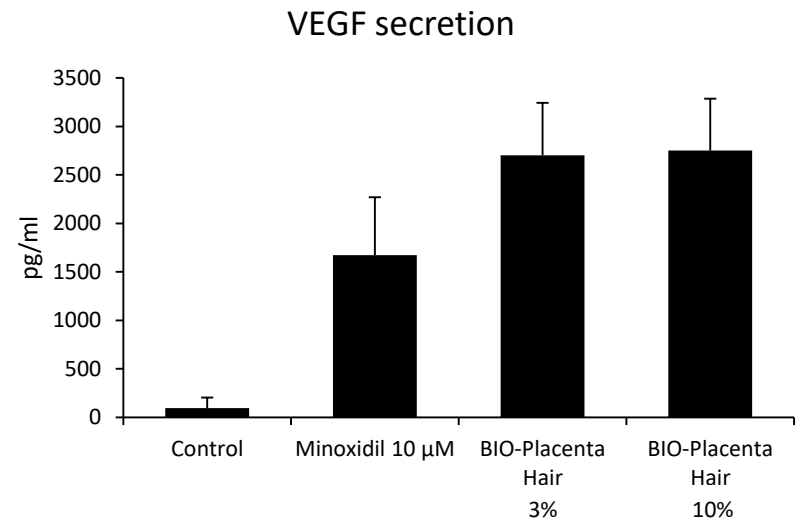
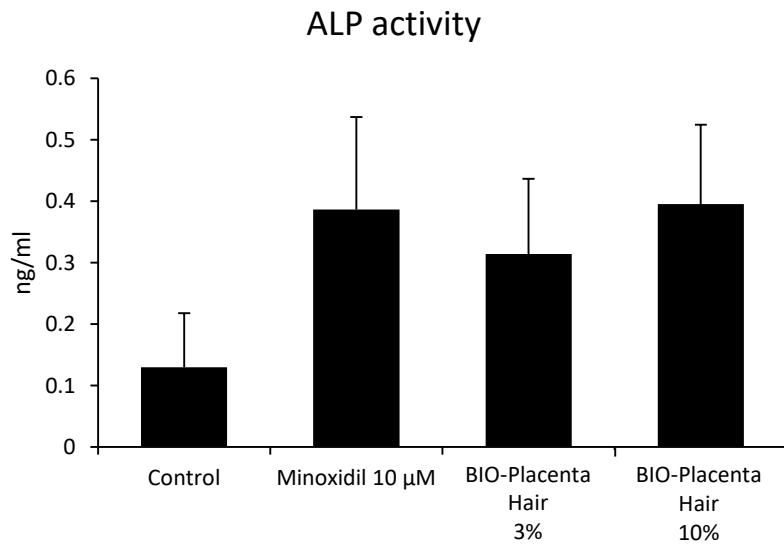
p-GSK3 β : Inhibits the degradation of β -catenin

β -actin : CTL



► BIO-Placenta Hair promotes HDP cell proliferation by induced Wnt/ β -catenin

: ALP activity & VEGF secretion in HDP cells



► ALP & VEGF activity has been increased by BIO-Placenta hair

Essential Factors Benefit

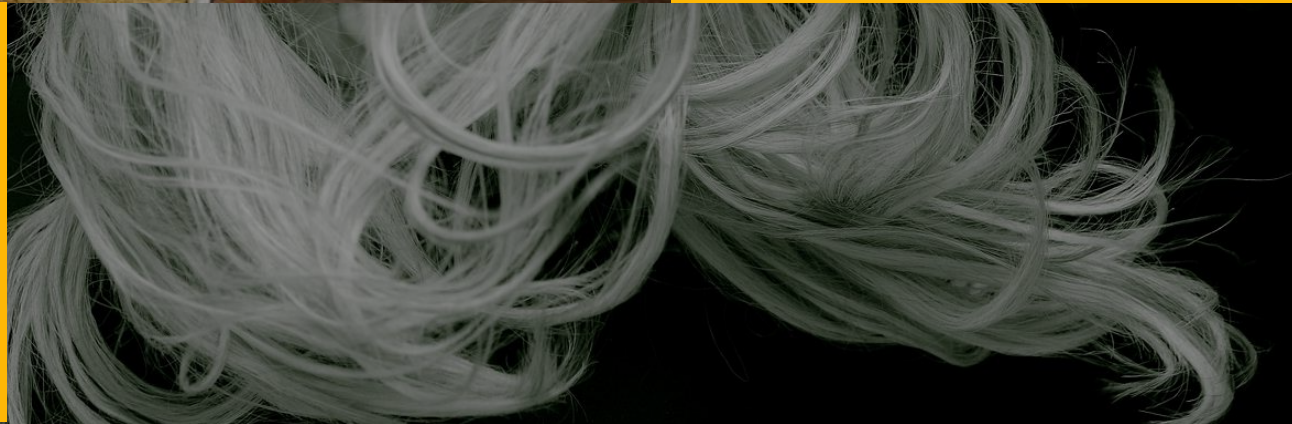


Vitamin E

: Prevent hair loss

L-Arginine

: Promoting thick hair growth



Eucalyptus leaf Extract

: Cooling hair scalp

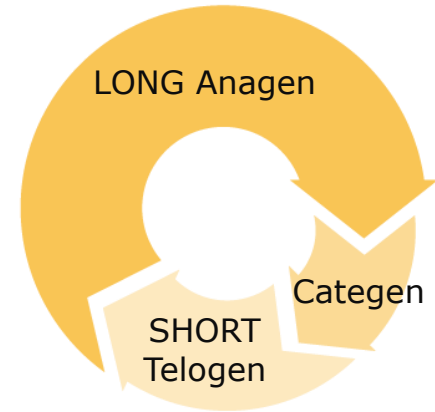
:Why BIO-Placenta Hair

Placenta Determine the number of hair

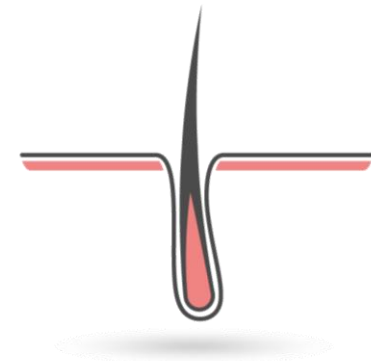
BIO-Placenta Hair



Stimulate hair growth



Hair Cycle Maintains
: Long Anagen / Short Telogen



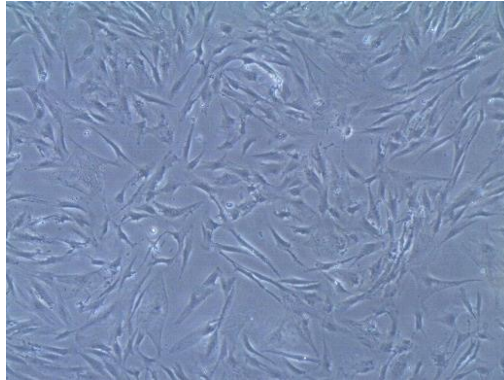
Strengthen hair
follicles

Summary of ex-vivo test

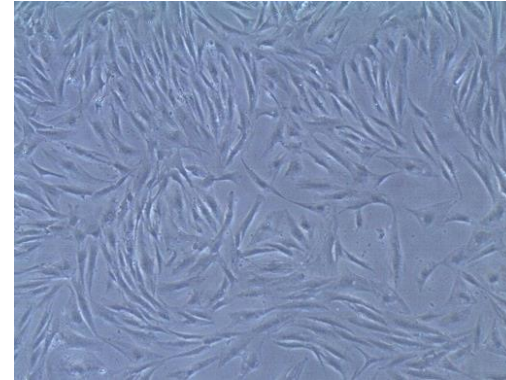
Subjects of experiment	Human hair tissues
Place of cultivation	Temperature : 37°C, 5% CO ² 95% air
Treatment period	5 days
Test sample	BIO-Placenta Hair 3% BIO-Placenta Hair 10%
Evaluation method	1. Evaluation of HDP cell proliferation 2. Evaluation of elongation hair shaft 3. Evaluation of HDP cell growth using the H&E staining
Statistic analysis methods	SPSS 17.0 for Windows
Test institute	Hair transplant Centre / Dermatologist

: HDP(Human Dermal Papilla) Cell proliferation

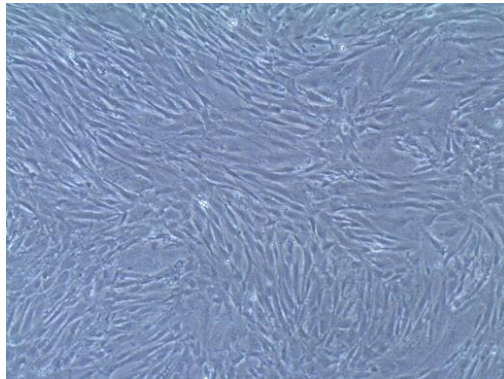
Control



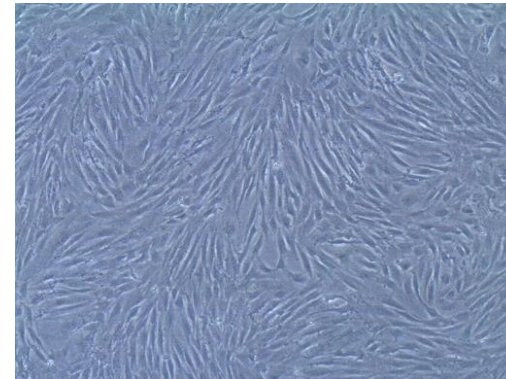
MNX 10 μ M



BIO-Placenta Hair 3%



BIO-Placenta Hair 10%



► BIO-Placenta Hair induces HDP cell proliferation

:EX Vivo Elongation Test

Control

MNX 10 μ M

BIO-Placenta Hair 3%

BIO-Placenta Hair 10%

Day 0

Days 5

Day 0

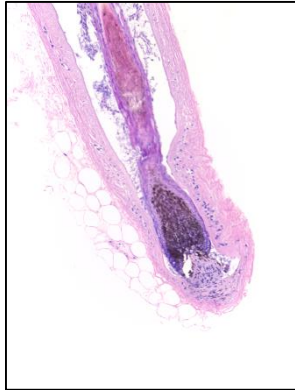
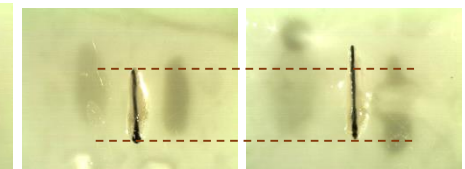
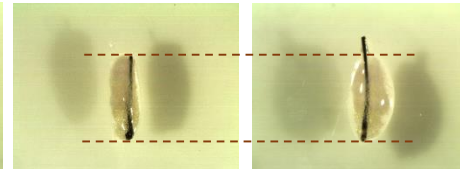
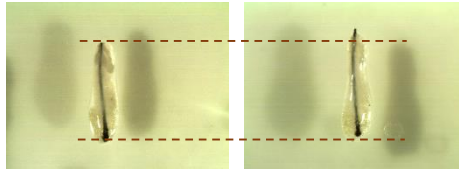
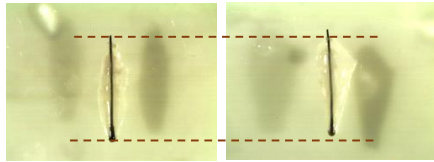
Days 5

Day 0

Days 5

Day 0

Days 5



► BIO-Placenta Hair promotes significant elongation of hair shaft after 5 days

: In-vivo Scalp condition & Hair thickening

Detection method : Aramo professional microscope

Case I(male, 37):

Before

After 4 weeks

After 20 weeks

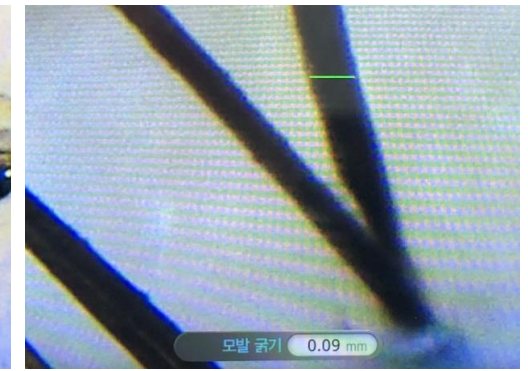
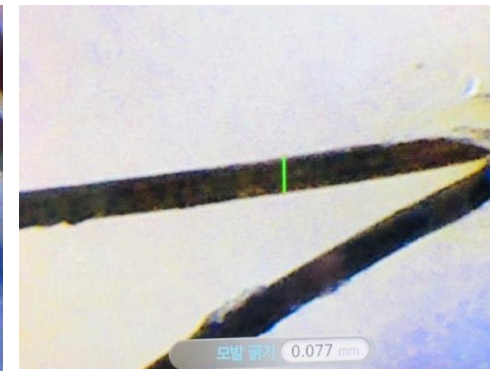


Sensitivity

11

6

2



Hair thickness

0.062

0.077

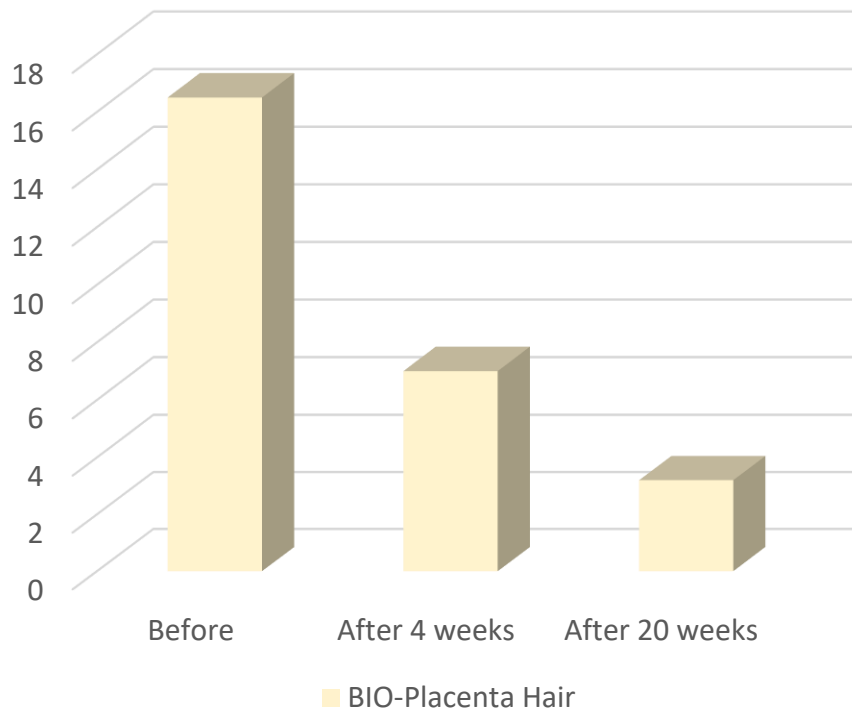
0.09

: In-vivo Scalp condition & Hair thickening

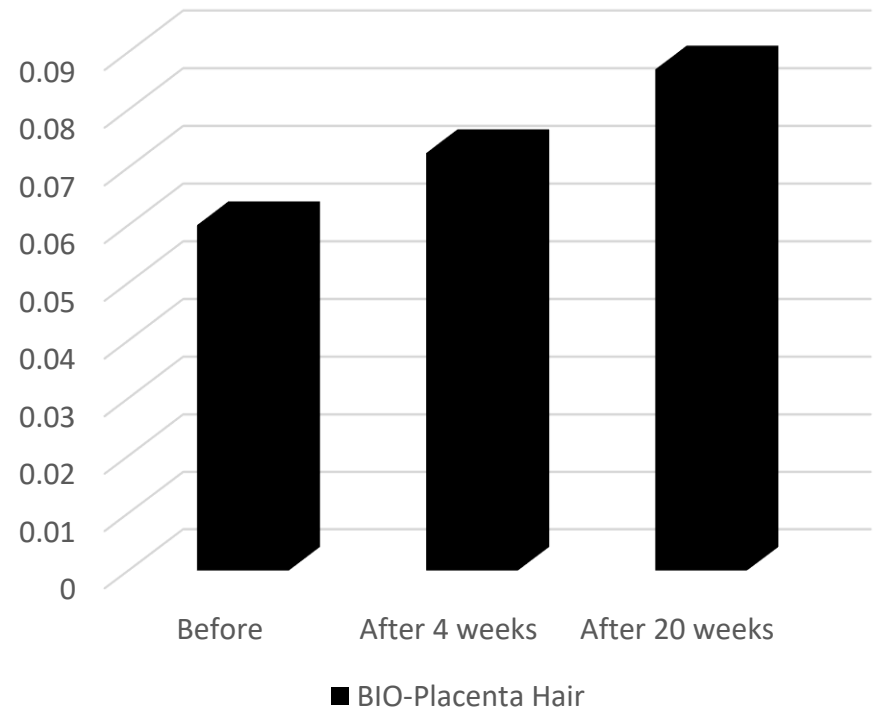
Detection method : Aramo professional microscope

Average :

Scalp Sensitivity



Hair thickness



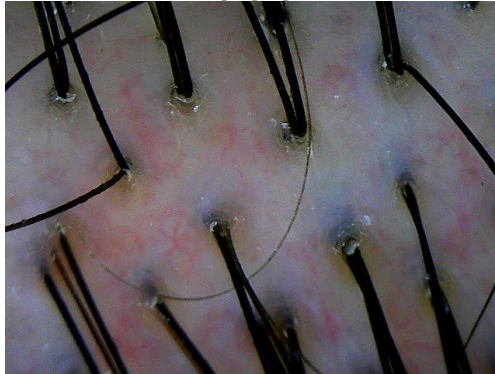
► In average, 50% of scalp/Hair condition has been improved

: In-vivo Hair growth

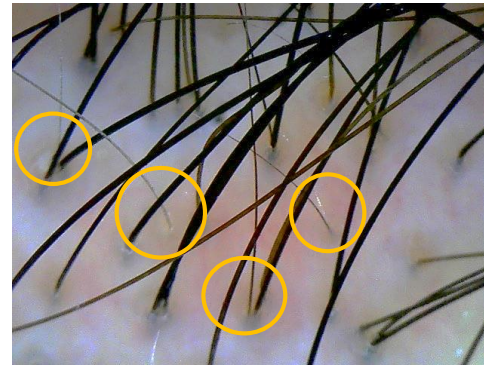
Detection method : Aramo professional microscope

Case II(male, 45):

Before



After 20 weeks



: In-vivo Hair growth

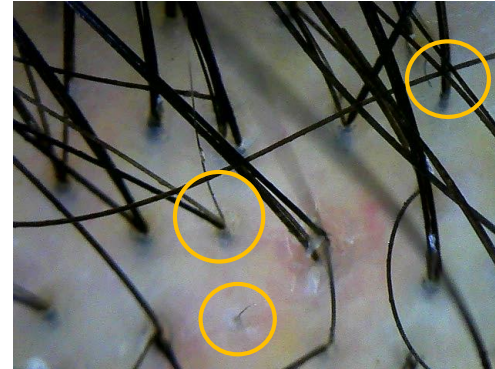
Detection method : Aramo professional microscope

Case III(male, 45):

Before



After 20 weeks



: In-vivo Hair growth

Detection method : Aramo professional microscope

Case III(male, 40):

Before



After 20 weeks



:Summary

<i>INCI Name</i>	Water, Glycerin, Lecithin, Alcohol, Propanediol, Arginine, Caprylyl glycol, Phenoxyethanol, Citric acid, Eucalyptus Globulus Leaf Extract, Tocopherol, sh-Polypeptide-11, sh-Polypeptide-1, sh-Oligopeptide-2, sh-Oligopeptide-10, sh-Polypeptide-9
<i>CFDA</i>	Water, Glycerin, Lecithin, Alcohol, Propanediol, Arginine, Caprylyl glycol, Phenoxyethanol, Citric acid, Eucalyptus Globulus Leaf Extract, Tocopherol, Hexapeptide-11, Oligopeptide-3, Oligopeptide-2, Oligopeptide-6
<i>Define</i>	5 safely synthesized growth factors stimulate mRNA expression, essential factors such as beneficial Vitamin improves hair quality, Amino acids provides moisturizing effect and Natural extract for cooling effect are working synergistically to regulate hair scalp condition.
<i>Physical characteristic</i>	Liquid form of liposome
<i>Function</i>	✓ Regulating hair cycle ✓ Controlling hair scalp condition
<i>Application</i>	Hair care
<i>Dosage</i>	3 – 10%



Thanks for your attention