AWY

ALWAYS WITH YOU

HAIR PROJECT

CYTOKINE-8

POWDER SOLUTION

We study to present you beauty shining brightly every morning

First home aesthetic you chose

ALWAYSWITHYOU

Hair project CYTOKINE-8 powder solution

- **Home Aesthetic** Scalp Care with **8types Cytokines**
- Therapy presented at **the World Congress for Hair Research**
  - The treatment that was proven to be effective in the world-leading dermatology journal 'Journal of Dermatology'
  - Mesotherapy solution is the the only clinical trials of product for hair loss treatment introduced effectiveness and stability by SCI Journal except for medicines

8 types Cytokines growth factor

KGF, FGF9, IGF-1, VEGF, Bfgf, Noggin, SOD, ATP

Hair loss treatment of 8 weeks

5ml*4bottle, 1/2 bottle once a week, total 8 times

Product Features

1) “Cytokine” hair growth factor of powder type
2) Maximization of active ingredients through own technology of Genetic recombination
3) Systematic scalp management, 1set for a week
4) Clinical Studies

Product Features

1) Growth Factor “Cytokine”

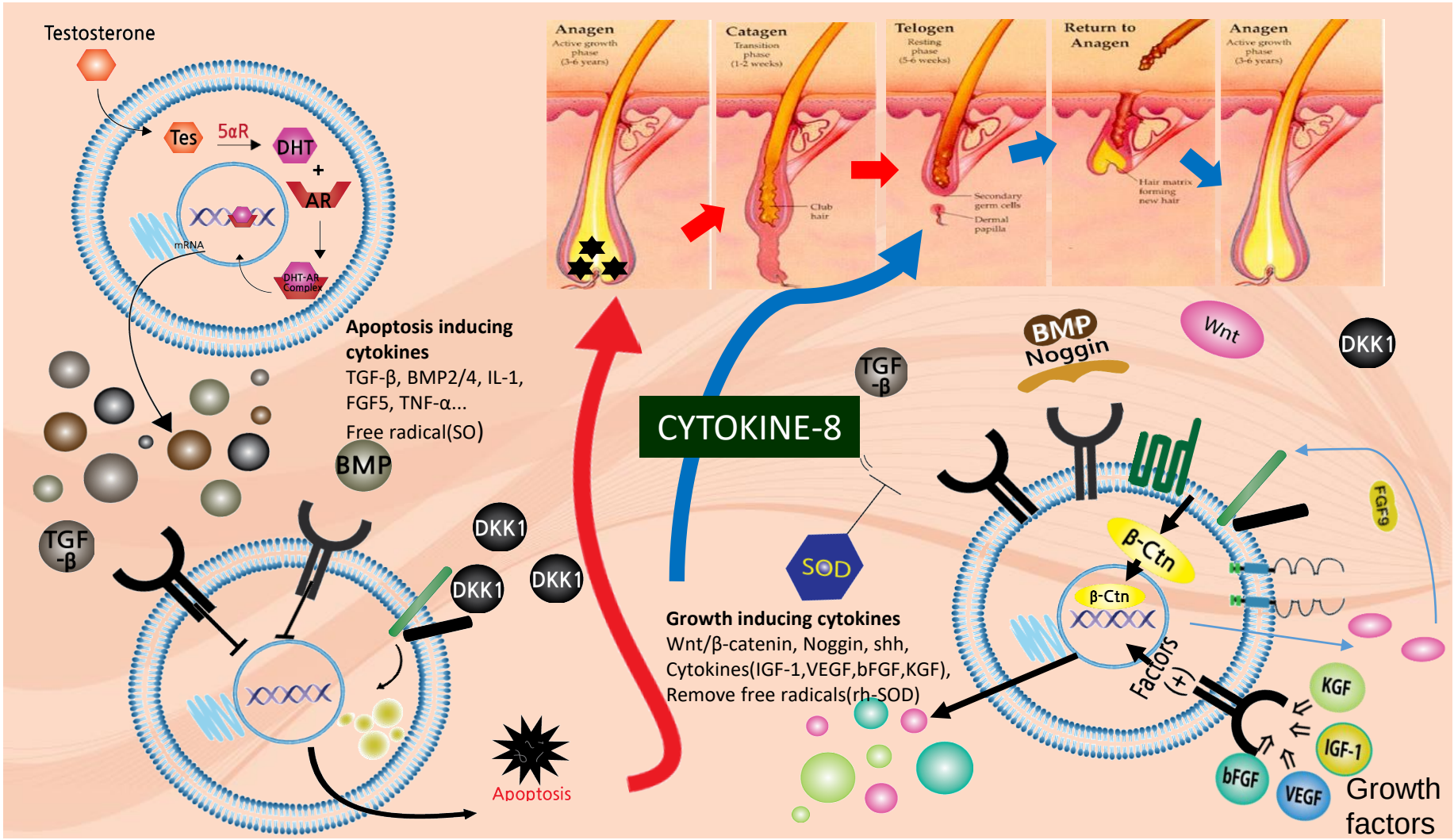
As peptide chain(protein) growth factor,
it stimulates hair growth, normalizes growth cycle
and suppress hair loss inducer

Cytokine?

- Cytokine is a cell factor(cell hormone) that controls cell cycle such as cell generation, cell growth, cell proliferation and death.
- Hair loss goes along by the collapse of balance between factors that generate cells and death factors that kill cells in hair follicles for many reasons.
- Cytokine therapy restores balance of cytokines in cells.

Product Features

1) Growth Factor “Cytokine”



Product Features

1) Growth Factor “Cytokine”

- Hundreds of cytokines exist and about 250 cytokines was discovered in stem cell-conditioned medium
- Registered in about 100 kinds of list of reagents
- About 20 types of cytokines are registered in INCI(International Nomenclature Cosmetic Ingredient) directory

Type	Function	Type	Function
KGF (Keratinocyte Growth Factor)	KGF involves in growth and differentiation of keratinocyte , generates endothelial cell and new hair. It also protect cells and prevent cell damage by protecting keratinocyte from chemotherapy and UV.	**bFGF (basic Fibroblast Growth Factor)**	bFGF increases synthesis of collagen, elastin and ECM to promote growth of hair and skin cell, activatation of dermal papilla cell and neovascularization.
FGF9 Fibroblast Growth Factor 9)	There’s a research that FGF9 released in γδ T cells contributes to regenerate hair cell of damaged area.	**Noggin**	Noggin prevents hair loss restraining BMP that generates cell apoptosis factor, differentiates stem cells and hair follicles and stimulates hair growth by activating Wnt/β-catenin.
IGF-1 (Insulin-like Growth Factor)	IGF-1 acts as growth hormone affecting histogenesis such as bones, muscles and nerves, improves cell regeneration and maintains growth period by promoting keratinocyte proliferation and regulating hair follicle growth.	**SOD (Superoxide Dismutase)**	Superoxide generated by the immune cell stimulation of excessive DHT destroys hair follicle and causes an inflammatory response. SOD protects hair follicles and promotes hair growth as the most effective excision enzyme of superoxide.
VEGF (Vascular Endothelial Growth Factor)	VEGF increases plasma protein permeability of capilary vessels to promote cell division and migration, promotes neovascularization , interfere in vascular maintenance, increase hair thickness and distribution and promote hair growth.	**ATP (Adenosine Triphosphate)**	Adenosine triphosphate (ATP) is the main energy source in life, increasing the ANAGEN duration and promoting hair follicle cell division. And there is research that ATP reduces DHT levels of pores.

Product Features

2) Technology of Genetic Recombination

[Commercialization of Cytokine]

- It is important to keep the activity of cytokines close to 100% by recombinant production methods
- Protein weak in heat-> **Freeze-dried powder** (In case of liquid or cream, the activation of component is reduced)
- Storage at room temperature, freezing after opening
- Unlike other substance it only binds to the cell's receptor even when it reaches to cell membrane

AutoMTS can maximize the effect of cytokine because cytokine has generally 5000dt which is larger than 900dt that can permeate into the skin

Product Features

3) Systematic Scalp Management

Composition

Cytokine 8 (100mg) * 4vial(10.5ppm)
Trico Colin tonic (30ml)(Hair loss functional cosmetic) * 1ea

Recommended usage

Just before use, inject a 'Trico Colin tonic' till 7ml guidelines and mix it thoroughly
(keep it refrigerated after unsealing, diluting)

Recommended program – use twice per 1 vial, within 2weeks(1SET=8 times, 8 week management)

1st month				2st months			
1st week	2nd weeks	3rd weeks	4th weeks	5th weeks	6th weeks	7th weeks	8th weeks
Vial1	Vial1	Vial2	Vial2	Vial3	Vial3	Vial4	vial4
total 4 times				total 4 times			

*Follow up progress
and condition and control the use with 2~4 weeks interval

Product Features

4) Clinical Studies

① The effect proved in World-leading dermatology journal 'Journal of Dermatology'

THE JOURNAL OF DERMATOLOGY

doi: 10.1111/j.1346-8138.2012.01680.x

The Journal of Dermatology 2012; **39**: 1–2

LETTER TO THE EDITOR

Effects of topical application of growth factors followed by microneedle therapy in women with female pattern hair loss: A pilot study

Dear Editor,

The impact of female pattern hair loss (FPHL) can be more severe with greater psychological distress and impaired social function for women as compared with men. Women place a greater emphasis than men on their physical appearances.[1] The growth and development of hair follicles is influenced by a number of growth factors and cytokines. In the present study, the effects of growth factors were evaluated by a scalp-split, single-blinded and placebo-controlled trial.

Eleven Korean women (mean age, 41.36 ± 2.43 years) with FPHL were enrolled in the study. The severity of FPHL was classified into the Ludwig grade I in all patients. Patients who had undergone treatments with any medication that can affect the hair cycle within 6 months were excluded. Differential diagnoses, such as telogen effluvium and alopecia areata, were evaluated by a dermatologist. All patients were healthy without any medical problems. The study was reviewed and the study protocol was approved by the local ethics committee of the Yeouido St Mary's Hospital Institutional Review Board. The treated side of the scalp was randomly selected in all patients. Growth factor solution (SGF57; Mediway, Seoul, Korea) was topically applied on the treated half of the scalp and followed by microneedle therapy (Dr Back 10 story FNS FN-1; Dongbang Medi-care, Bundang, Korea). The other half of the scalp (control side) was treated with normal saline followed by microneedle therapy. The major components of the topical solution used for treatment were basic fibroblast growth factor (2.5 μg/mL), insulin-like growth factor-1 (1 μg/mL), vascular endothelial growth factor (2.5 μg/mL), stem cell factor (2.5 μg/mL), keratinocyte growth factor-2 (2.5 μg/mL), superoxide dismutase-1 (5 μg/mL) and Noggin (2.5 μg/mL). The target proteins were produced using the KGMP facility for pharmaceuticals at the Daejeon Bio Venture Town (Daejeon, Korea).The *Escherichia* depth of 0.5 mm and a constant rotational speed of 1500 rpm (3.8 *g*). Photographs of 11 patients were taken at baseline and first, second, third, fourth and fifth treatments. The photos were taken by the same operator using the same conditions at the same point of the scalp; the intersection points between the vertical line extending from the lateral margin of the eyebrow and the horizontal line extending from the external auditory canal. A digital microscope (AM313T, Dino-Lite; AnMo Electronics, Taiwan) was used to take phototrichogram images. An investigator blinded to the study counted the number of hair shafts using phototrichogram images taken with the digital microscope.

The mean hair shaft densities on both the treated and control halves of the scalp were not significantly different at baseline. However, the differences in hair shaft density were significant at the second, fourth and fifth weeks (Table 1). The mean change in hair shaft count at each week compared with baseline was calculated. An increase of more than 10% compared with baseline was observed on the treated side. The mean changes were significantly different between the treated side and control side at the weeks 2–5 (Fig. 1a). All patients answered the questionnaires regarding patient satisfaction for each side of the scalp. The mean satisfaction score on the treated side was 6.78 ± 0.51 (0 = dissatisfied, 5 = neutral, 10 = very satisfied). Satisfaction tended to increase with respect to the treated side, but not to the control side (mean satisfaction score of 4.96 ± 0.95) (Fig. 1b). There were no

Table 1. Mean hair densities on the growth factor-treated half and the control half of the scalp

Mean hair shafts count (±SD)

[Effects of topical application of growth factors followed by microneedle therapy in women with female pattern hair loss : A pilot study]

J. Dermatology, 2012, 39

Professor Lee Young Bok, Park Hyun Jung, Yeouido St.Mary's Hospital, The Catolic University of Korea

11 Korean Women (41±2 years) into Ludwig I grade, Random, double-blind test

Growth factor solution (SGF-57) was topically applied on the treated half of the scalp and followed by microneedle therapy. The other half of the scalp (control) was treated with normal saline followed by microneedle therapy.

<Result>

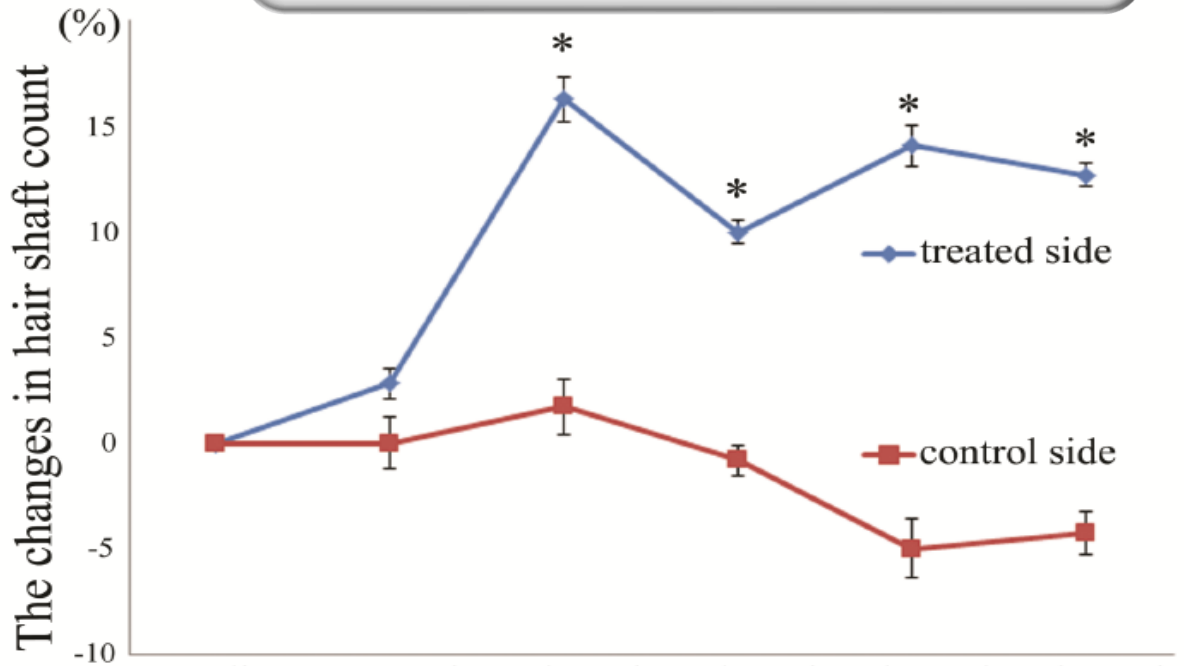
- The differences in hair shaft density were significant at the 2nd, 4th and 5th weeks.
- An increase of more than 10% compared with baseline was observed on the treated side.
- The mean changes were significantly different between the treated side and control side at the weeks 2-5

Product Features

4) Clinical Studies

① The effect proved in World-leading dermatology journal 'Journal of Dermatology'

As a result of 5 week hair loss cytokine therapy,
hair shaft count increased by more than 10%

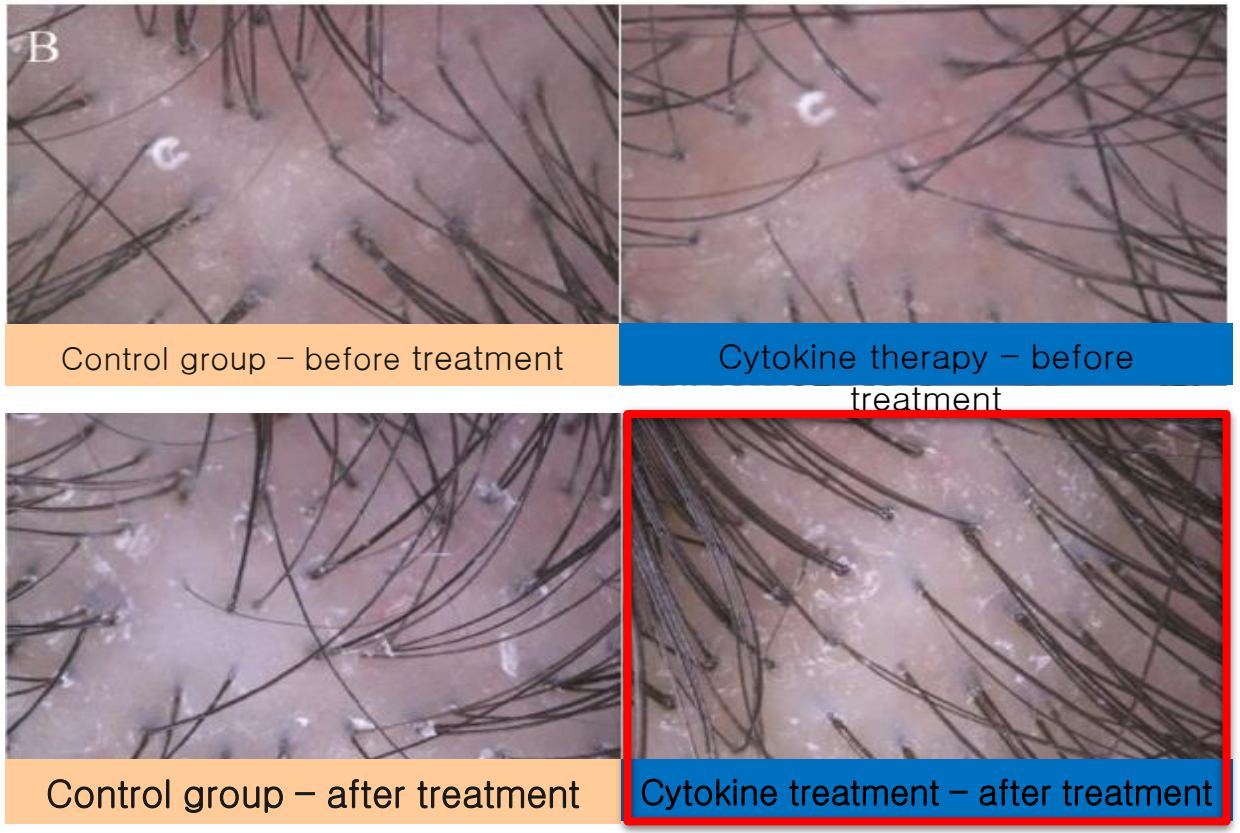


[Effects of topical application of growth factors followed by microneedle therapy in women with female pattern hair loss] J. Dermatology, 2012, 39

Product Features

4) Clinical Studies

① The effect proved in World-leading dermatology journal 'Journal of Dermatology'



[Effects of topical application of growth factors followed by microneedle therapy in women with female pattern hair loss] J. Dermatology, 2012, 39

Product features

4) Clinical Studies

② Publication of World Congress for Hair Research 2013

[Systemic growth factor treatment on the patients with androgenetic alopecia]
World Congress for Hair Research
Journal of Investigative Dermatology
Professor Ro, Byung In Myong ji Hospital, Dermatology

JOURNAL OF INVESTIGATIVE DERMATOLOGY

7th World Congress for Hair Research

P056

Systemic growth factor treatment on the patients with androgenetic alopecia

BI Ro *Department of Dermatology, Myongji Hospital/Kwandong University College of Medicine, Koyang-si, Republic of Korea*

Background: Among the various stimulants of treatment in androgenetic alopecia (AGA), growth factor is known as an effective agent in hair regeneration. Systemic growth factor (SGF) is mainly composed of β-fibroblast growth factor (β-FGF), vascular endothelial growth factor (VEGF), insulin-like growth factor-1 (IGF-1), and others.

Purpose: The aim of this study is to evaluate the efficacy of systemic growth factor treatment in patients with AGA.

Methods: SGFs were topically applied using medical devices containing a microneedle and by electroporation in a 2–4-week interval. The efficacy was evaluated by phototrichogram and digital photograph analysis after 10 times of treatment within 6 months. In total 116 patients, aged between 19 and 60 years, were enrolled (MPHL II–V: 54 patients, FPHL I and II: 62 patients) through 12 months, from October 2011 to September 2012.

Results: Phototrichogram showed 9.85% increase in hair density and 9.11% increase in hair thickness. In hair density, 30.1% showed 5–10% increase, and 25% of the patients showed more than 15% increase. In hair thickness, 35.3% presented 0–5% increase, and 21.5% patients presented more than 15% increase. MPHL cases were more effective than FPHL. Adverse effect was not observed except for a mild tingling sensation.

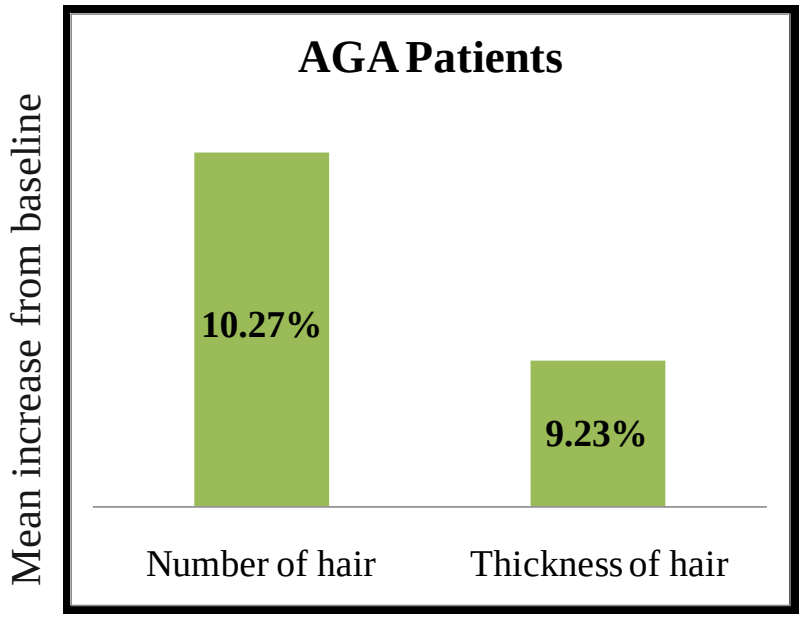
Conclusion: Systemic growth factor therapy is effective and safe for the treatment of AGA and this will be one of the treatment options for AGA.

http://www.nature.com/jid/journal/v133/n5/full/jid2013110a.html

Product Features

4) Clinical Studies

② Publication of World Congress for Hair Research 2013



Result of treatment with Cytokine therapy

- Numbers of hair : increased maximum 29.41%, averagely 10.27%
- Thickness of hair : increased maximum 27.87%, averagely 9.23%

Condition of research:
123 male, female patients with hair loss / 6 month 10 time treatment

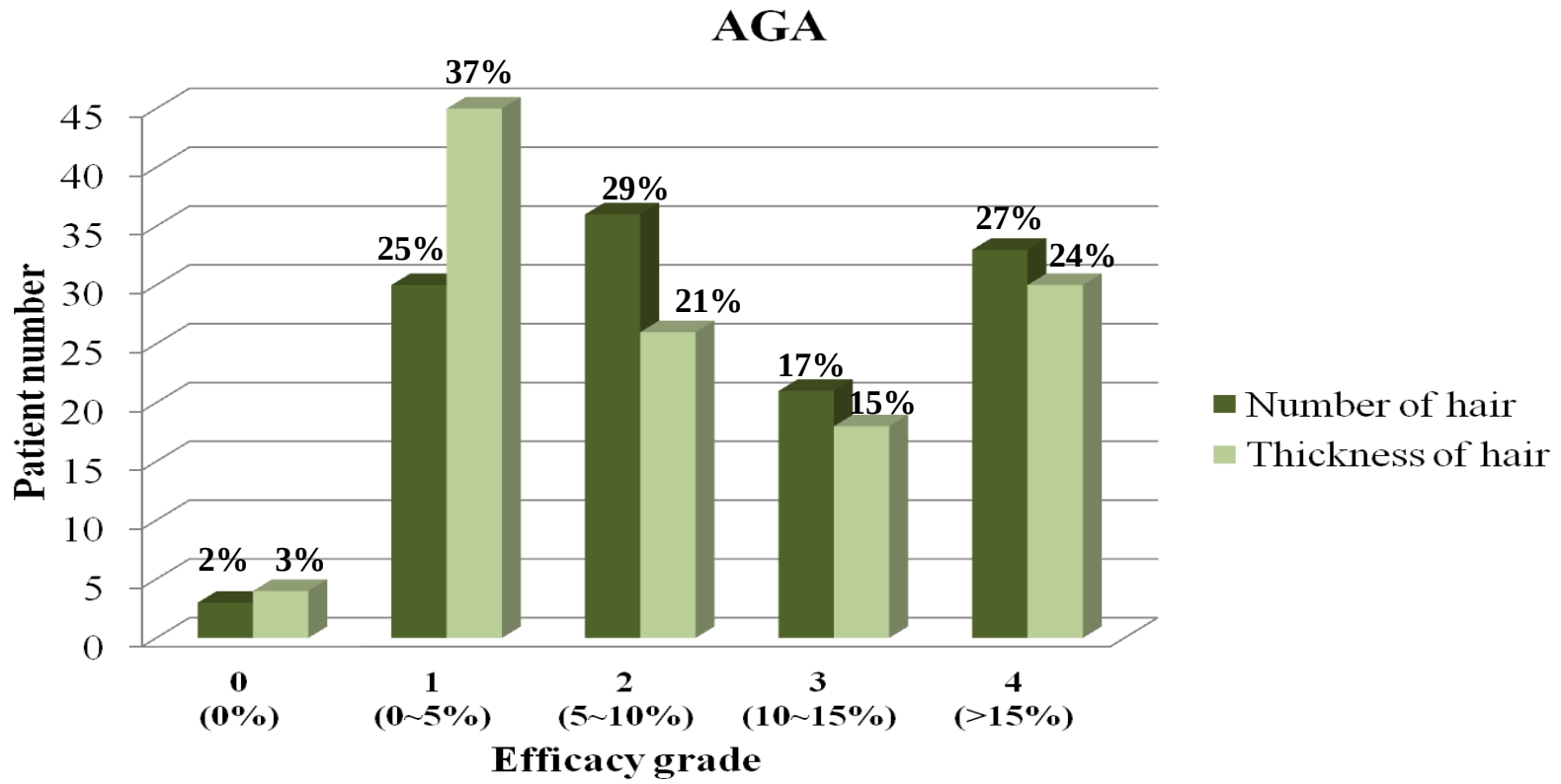
- 4 times every 2 weeks
- 3 times every 3 weeks
- 3 times every 4 weeks

[Systemic growth factor treatment on the patients with androgenetic alopecia], World Congress for Hair research 2013, Journal of Investigative Dermatology,

Product Features

4) Clinical Studies

② Publication of World Congress for Hair Research 2013



[Systemic growth factor treatment on the patients with androgenetic alopecia], World Congress for Hair research 2013, Journal of Investigative Dermatology,

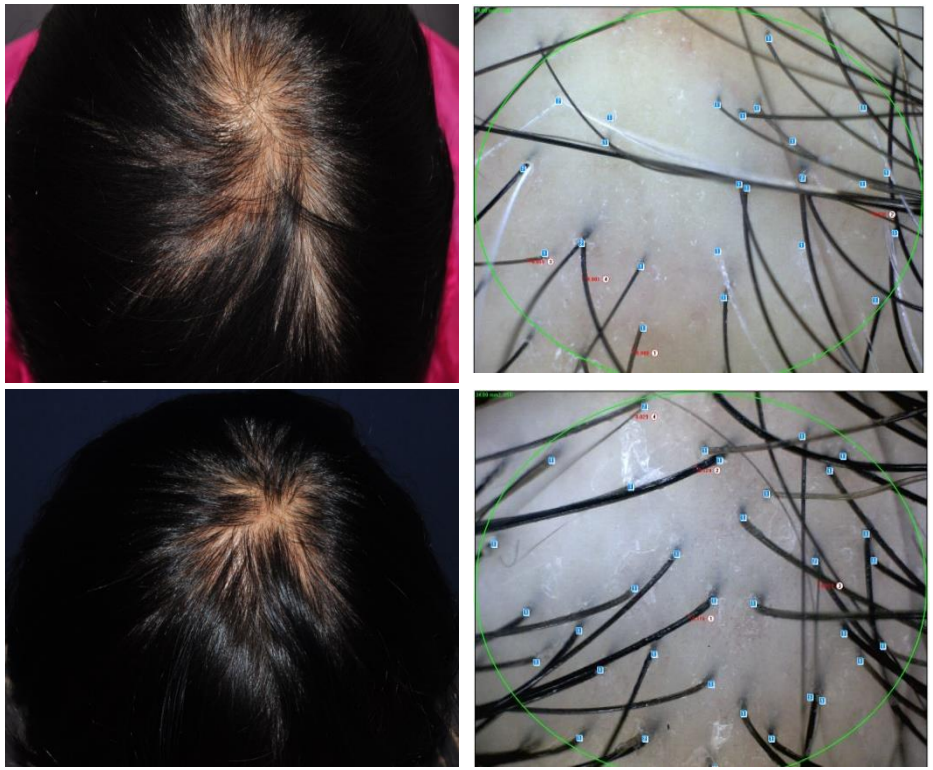
Product Features

4) Clinical Studies

② Publication of World Congress for Hair Research 2013

[Clinical patient]
Woman in her early 60s

Photo | Phototrichogram



Before treatment:
Number of hair – 82
Thickness of hair – 64μm

After cytokine therapy
Number of hair – 108
Thickness of hair – 75μm

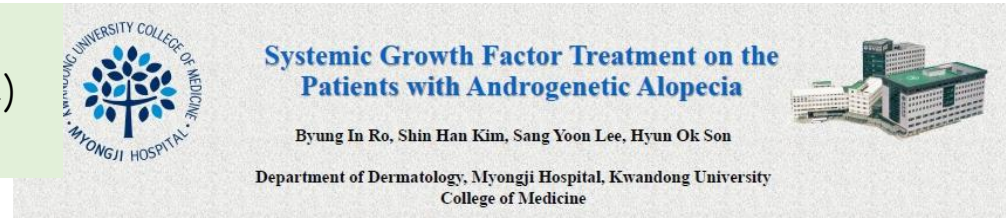
[Systemic growth factor treatment on the patients with androgenetic alopecia], World Congress for Hair research 2013, Journal of Investigative Dermatology,

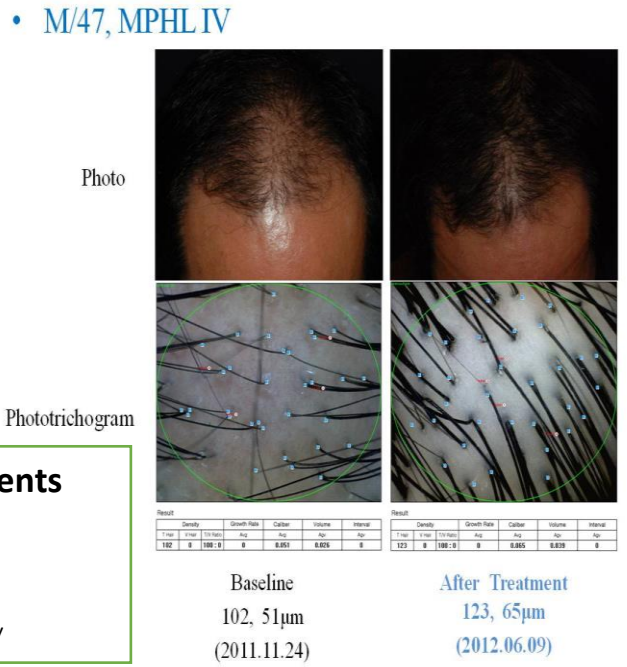
Product Features

4) Clinical Studies

③ Articles published in other academic societies

Presentation in World Congress for Hair Research for 2 years in a row(2013, 2014)
[2014 Jeju society presentation]





[Systemic growth factor treatment on the patients with androgenetic alopecia]
World Congress for Hair Research
Journal of Investigative Dermatology
Professor Ro, Byung In Myong ji Hospital, Dermatology

Background

- New emerging treatment
  - PRP(platelet-rich plasma) injection : roller and stamp
  - Mesotherapy : roller and stamp
  - Cytokine therapy : microneedle
- YB Lee et al. Effects of topical application of growth factors followed by microneedle therapy in women with female pattern hair loss: a pilot study. J Dermatol 39, 2012
  - 5 weeks treatment with microneedle therapy
  - Half-split study / 11 patients
  - Hair increased 10% compared with baseline
- Herein, we investigated the injection of systemic growth factor for alopecia

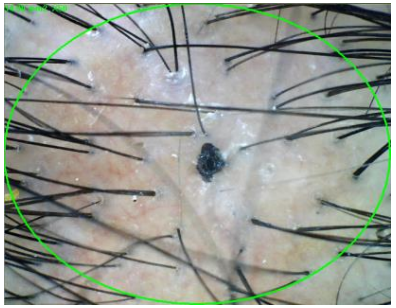
Materials and Methods

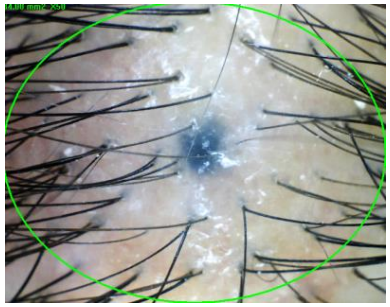
- 144 Androgenetic alopecia Patients
  - From October 2011 to September 2012
  - 28patients excluded
  - MPHL : 54patients / FPHL : 62patients
- Treatment
  - Topical application of growth factor solution to scalp by microneedle therapy and electroporation
  - Growth factor (SGF57; Aesmed Co. Ltd., Seoul, Korea)
    - FGF, IGF-1, VEGF, stem cell factor, KGF-2, superoxide dismutase-1, and Noggin
  - Microneedle (Dr Back 10 story FNS FN-1; Dongbang Medicare, Bundang, Korea)
  - Electroporation (Derma-S; Robomax, Sungnam, Korea)
- Total 10 times (6 months) by 2~4 weeks interval
- Clinical photographs and phototrichogram images
- Efficacy: 5 grade - number and thickness of hair
  - 0(no increase) / 1(0~5% increase) / 2(5~10% increase) / 3(10~15% increase) / 4(>15% increase)

Product Features

4) Clinical Studies

③ Articles published in other academic societies





Baseline

Hair density : 199/cm^2

After Treatment

Hair density : 238/cm^2

Treatment result of hair loss cytokine therapy by depth of treatment

- 0.5mm treatment : Hair density increased averagely 13.8%
- 0.3mm treatment : Hair density increased averagely 8.9%

(World Congress for Hair Research, 2013, 2014)

[Systemic growth factor treatment on the patients with androgenetic alopecia] World Congress for Hair research 2014

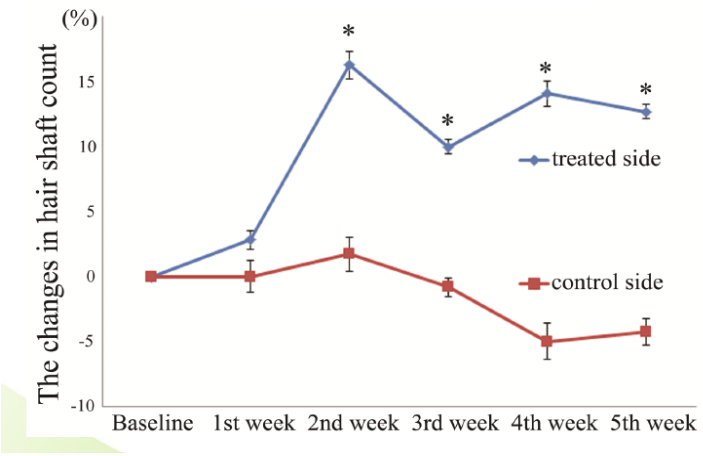
Product Features

4) Clinical Studies

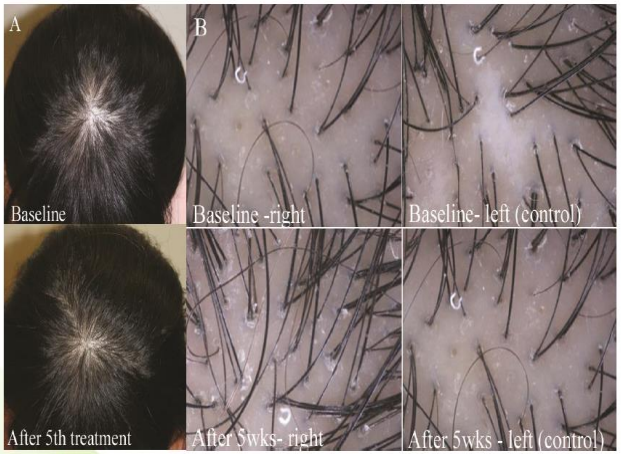
③ Articles published in other academic societies

<The changes in hair shaft count>

The rate of change on the treated side was significantly different from that on the control side.



<Clinical photos of patient 1>



<Clinical photos of patient 2>

Ref.) The journal of Dermatology 2012: 39: 1-2

http://onlinelibrary.wiley.com/doi/10.1111/j.1346-8138.2012.01680.x/abstract

(World Congress for Hair Research, 2013, 2014)

[Systemic growth factor treatment on the patients with androgenetic alopecia] World Congress for Hair research 2014

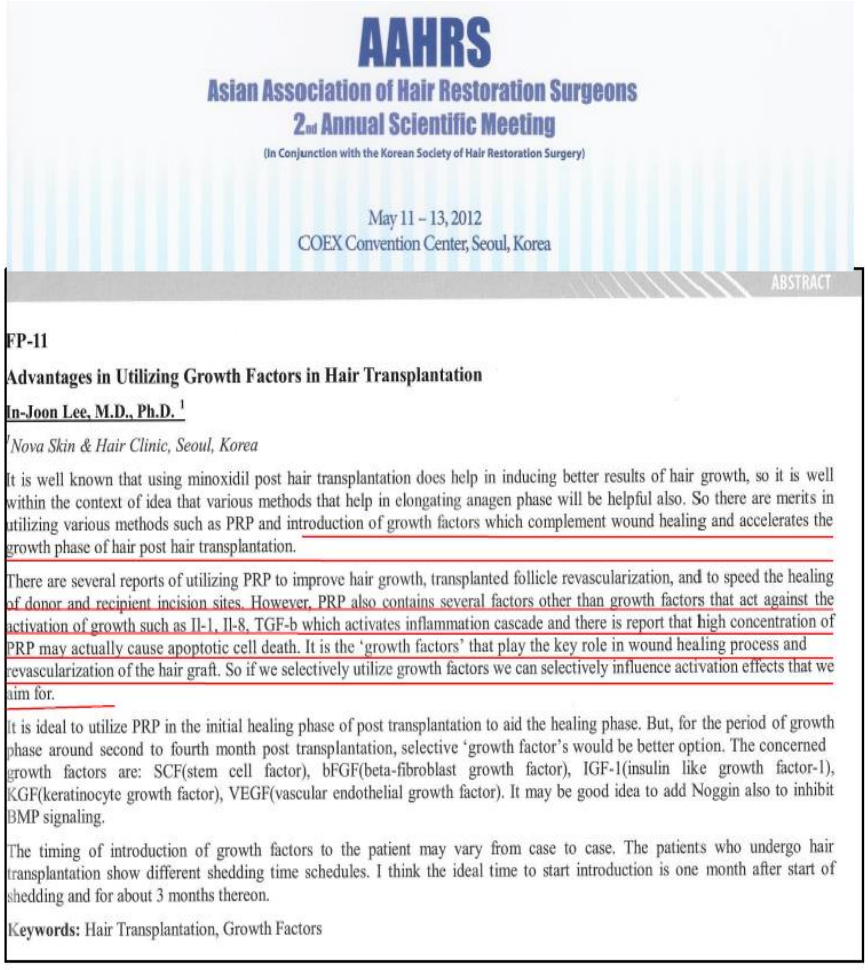
Product Features

4) Clinical Studies

③ Articles published in other academic societies

Presentation at Asian association of hair restoration surgeons

- Asian Association of Hair Restoration Surgeons 2nd Annual Scientific Meeting 2012. 5. 11~13
- Topic : [Advantages in Utilizing growth factors in hair transplantation]
- Contents : Recommend using AGF39 to increase the rate of hair transplantation and satisfaction of patients before and after hair transplantation



AAHRS

Asian Association of Hair Restoration Surgeons

2nd Annual Scientific Meeting

(In Conjunction with the Korean Society of Hair Restoration Surgery)

May 11 – 13, 2012

COEX Convention Center, Seoul, Korea

ABSTRACT

FP-11

Advantages in Utilizing Growth Factors in Hair Transplantation

In-Joon Lee, M.D., Ph.D. [1]

[1]*Nova Skin & Hair Clinic, Seoul, Korea*

It is well known that using minoxidil post hair transplantation does help in inducing better results of hair growth, so it is well within the context of idea that various methods that help in elongating anagen phase will be helpful also. So there are merits in utilizing various methods such as PRP and introduction of growth factors which complement wound healing and accelerates the growth phase of hair post hair transplantation.

There are several reports of utilizing PRP to improve hair growth, transplanted follicle revascularization, and to speed the healing of donor and recipient incision sites. However, PRP also contains several factors other than growth factors that act against the activation of growth such as Il-1, Il-8, TGF-b which activates inflammation cascade and there is report that high concentration of PRP may actually cause apoptotic cell death. It is the 'growth factors' that play the key role in wound healing process and revascularization of the hair graft. So if we selectively utilize growth factors we can selectively influence activation effects that we aim for.

It is ideal to utilize PRP in the initial healing phase of post transplantation to aid the healing phase. But, for the period of growth phase around second to fourth month post transplantation, selective 'growth factor's would be better option. The concerned growth factors are: SCF(stem cell factor), bFGF(beta-fibroblast growth factor), IGF-1(insulin like growth factor-1), KGF(keratinocyte growth factor), VEGF(vascular endothelial growth factor). It may be good idea to add Noggin also to inhibit BMP signaling.

The timing of introduction of growth factors to the patient may vary from case to case. The patients who undergo hair transplantation show different shedding time schedules. I think the ideal time to start introduction is one month after start of shedding and for about 3 months thereon.

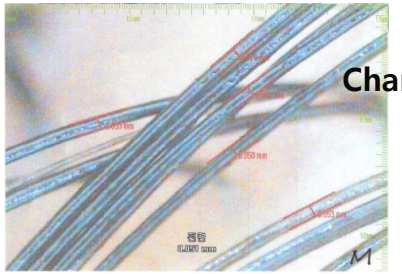
Keywords: Hair Transplantation, Growth Factors

Product Features

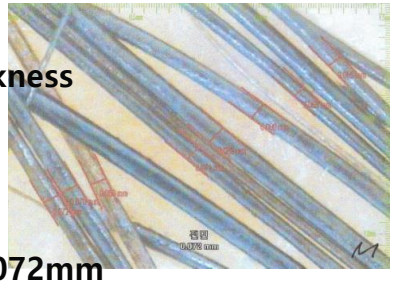
4) Clinical Studies

④ User (hospital, etc.) Clinical data

<4 times management (4.11~5.12)>

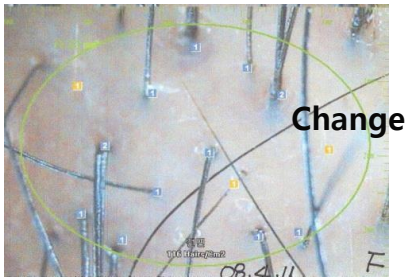


Change in hair thickness

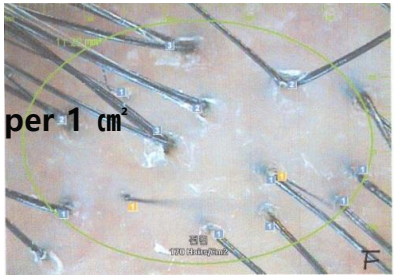


Mid Scalp:

0.051mm → 0.072mm



Change of hair density per 1 ㎠



Frontal Core : 143 hairs/cm2 **188 hairs /cm2**

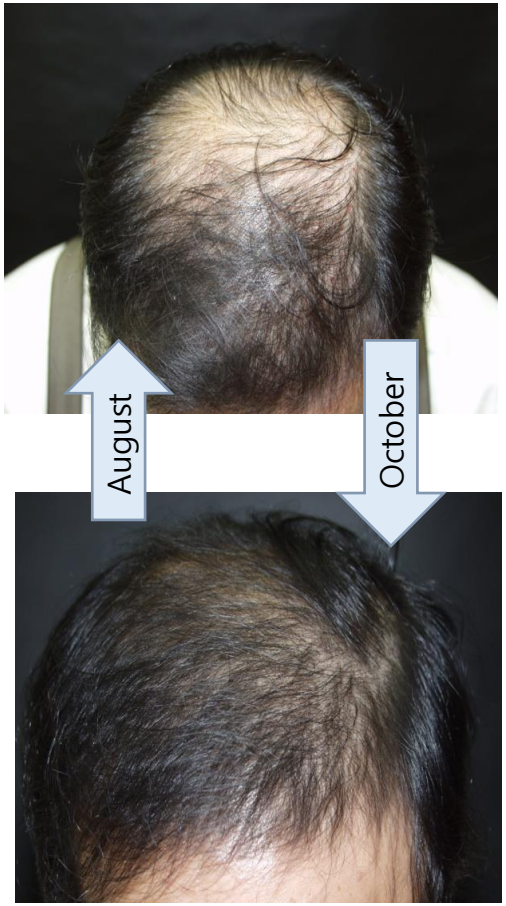
Terminal hair 81%, Vellus hair 19% → **Terminal hair 90%, Vellus hair 10%**

<5 times management (3.14-5.16)>

Product Features

4) Clinical Studies

④ User (hospital, etc.) Clinical data



10.23

11.18

11.26 (after 4 times treatment)

8.30

10.25

12.27(after 16 times treatment)

Product Features

4) Clinical Studies

④ User (hospital, etc.) Clinical data

Case 1

8/30

12/7

Case 2

10/13

12/15

Product Features

4) Clinical Studies

④ Review of hospital users


trichology

민복기 박사의 Hair Update

탈모치료의 새로운 포인트 - 사이토카인


SGF-57


SGF-57

글/이인준(노바피부과 원장)

글/홍남수(듀오피부과 원장)

글/김영진(목동 미소가인피부과 원장)

글/조항래(일산 오킴스피부과 원장)

글/노윤우(맥스웰피부과 원장)

민 복 기

의학박사, 올포스킨피부과 대구점 대표원장, 털나라피부과네트워크 사무총장 , 대한피부과의사회 대경 기획이사, 대한모발학회 홍보이사, 경북의전원 피부과 외래교수, 대한미용피부외과학회 이사, 저서 Hair &Wrinkles Update, 보톡스 시술법과 모발이식술 등 14편, 수상 대한피부과학회 최우수논문상, ABI, IBC, Marquis who's who 등 17회

글/김문정(MJ올피부과 원장)

Product features

4) Clinical datas demonstrating efficacy

④ Review of hospital users

Maxwell Hair Clinic

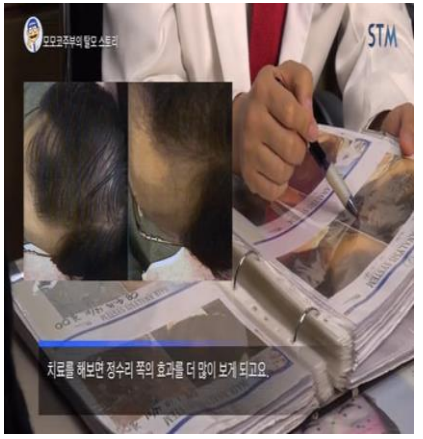
http://videofarm.daum.net/controller/video/viewer/Video.html?vid=ve13egilWpq66NDeNQWpiPP&play_loc=undefined

S&U Clinic

http://videofarm.daum.net/controller/video/viewer/Video.html?vid=vf60beAJ4CyJjC3PeKejyKC&play_loc=undefined

Nova Clinic

http://youtu.be/Rz20ii09AIY



Lohas Clinic

http://videofarm.daum.net/controller/video/viewer/Video.html?vid=v49a6ToiTTUzzTgRrbrgrUU&play_loc=undefined

Kye Skin Clinic

http://youtu.be/uVQT4_ZoXs4

Dami Clinic

http://videofarm.daum.net/controller/video/viewer/Video.html?vid=vc3aclov9o9eUehKh9jZXVz&play_loc=undefined

Main ingredients of CYTOKINE-8 powder solution

1. Suppression of hair loss-inducer

- **Noggin (BMP antagonist):** Suppress BMP 2/4형 to maintain follicular cell's activity
- **FGF9(Fibroblast Growth Factor 9):** FGF9, secreted from γδ T cells induces generatrion of WNT in hair follicle there by suppressing activity of DKK-1 and promoting generation of hair protein
- **SOD(Superoxide Dismutase) :** Inhibits activity of TGF-β2, β1, protects hair follicles and promotes hair growth

2. Promoting hair growth & normalizing hair growth cycle

- **KGF(FGF7: Keratinocyte Growth Factor):** Promotes growth and differentiation of keratinocytes to creat new hair
- **IGF (insulin-like Growth Factor):** As Insulin-like growth factor, Growth hormone is involved in tissue formation, improves cell generation helping vascularization, promotes keratinocyte proliferation and growth of hair follicles to maintain growth.
- **VEGF (Vascular endothelial Growth Factor):** promotes neovascularization, protects vascular, increase hair diameter and distribution of hair by Increasing plasma protein permeability of capillary vessels
- **bFGF (basic Fibroblast Growth Factor):** Promotes hair growth by increasing fibroblast growth factor, collagen, and elastin synthesis

3. Promoting energy metabolism of cells

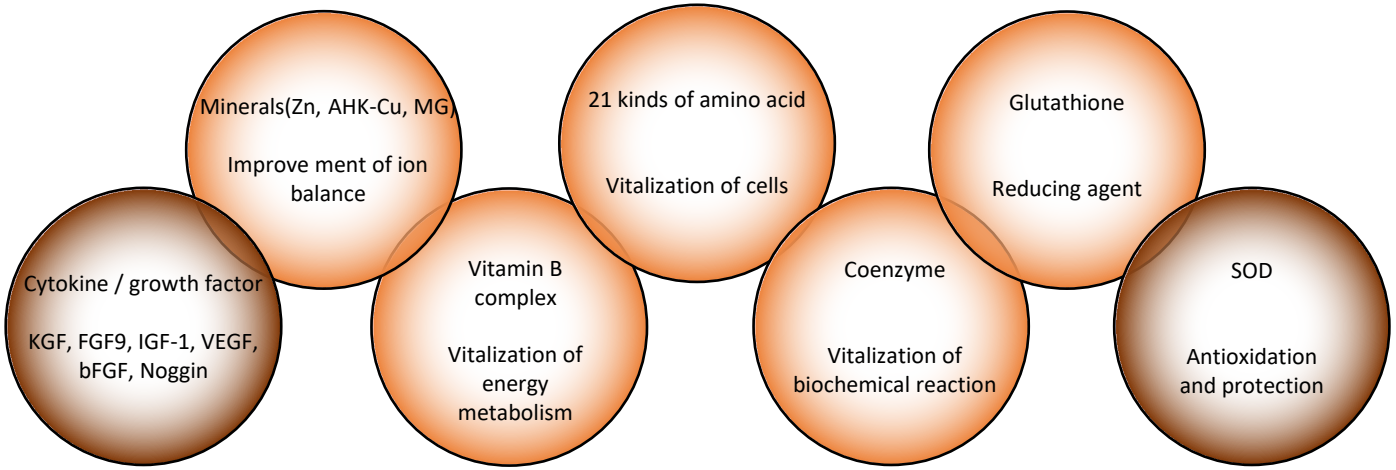
- **ATP:** ATP is composed of Vitamins, Vitamin B Complex, Amino acids, Minerals, Coenzymes, AHK-Cu, Zinc and Glutathione and promotes energy metabolism and hair growth of cells.

CYTOKINE-8 is the treatment of which action mechanism is scientifically proved

Main Ingredients of CYTOKINE-8 Powder Solution

Improvement of ion balance with for cell metabolism zinc, copper and various minerals for cell metabolism proven to be effective against hair loss

21 kinds of amino acids
which are raw materials of hair protein



Vitamin B Complex for Cell Energy Metabolism

KGF, FGF9, IGF-1, bFGF, VEGF & Noggin, SOD

+

Activation of biochemical reaction with coenzyme

Multi-nutrients (37 nutrients required for energy metabolism of hair follicular cells)

Product Specifications

Full Ingredient List

[Cytokine8 Powder solution (8type Cytokine growth Factor sterilized powder)]
Mannitol, sh-Polypeptide-13(Noggin), sh-oligopeptide-2(igf-1), Sh-polypeptide-3 (KGF), Sh-polypeptide-1 (BFGF), Sh-polypeptide-9 (VEGF), Sh-polypeptide-60 (SOD), Sh-polypeptide-4(SCF), Coppertripeptide-1, Coenzyme A, Retinol, Thiamin HCL, Riboflavin , Niacinamide , calcium pantothenate , Pyridoxine , Biotin, Paraaminobenzoic Acid, Cyanocobalamin, Folic Acid, Inositol, Magnesium Sulfate , Zinc Oxide, Glutathione, Alanine, Arginine(Lysine Polypeptide), Cysteine, Glutamine, Glycine, Histidine, Isoleucine, Leucine, Lysine, Methionine, Ornithine, Phenylalanine, Proline, Serine, Threonine, Tryptophan, Tyrosine, Valine, Adenosine Phosphate

[Trico Clin Tonic (Hair loss functional cosmetic)]
Water, Sophora extract, Mulberry root extract, Algae extract, Chrysanthemum flower extract, Coppertripeptide-1, Polysorbate 80, Lauramin oxide, Magnesium ascorbyl phosphate, Butylene glycol, menthol, Salicylic acid, Panthenol, Citric acid, piroctonol amine, 1,2- Hexanediol, ethanol, spices

Composition

- Powder Solution: 100mg X 4ea
- Functional Tonic : 30ml
- Functional Spray : 30ml

Product Features

- Containing hair growth factor
- Hair loss functional cosmetics

HAIR PROJECT
CYTOKINE-8
POWDER SOLUTION

AWY
ALWAYS WITH YOU