

## AnteAGE MD® Home Hair System

AnteAGE MD® Hair Serum (1 oz.)  
Microchannel Stamp (0.25mm)  
Thickening Brush  
Sanitizer Vial

All skin/hair types, all ages.

**The AnteAGE MD® Home Hair System** simplifies hair regrowth treatments at home by combining all the tools needed to stimulate hair follicles and promote natural, healthy hair growth, without surgery or hormonal side effects.

The power in the system comes from WNT1 Growth Factors and Cytokines that specifically signal to the dormant stem cells inside the hair follicles to regenerate and return to normal growth patterns. We have combined these growth factors with polybotanicals proven to stimulate circulation and blood flow while keeping inflammation low. Together, this formula in our Hair Serum creates an optimal environment for healthy hair growth.

The application of Hair Serum comes with a handheld dermal needling device to enhance product penetration and a thickening brush to gently stimulate follicles.



### APPLICATION & USAGE

Apply several drops Hair Serum to clean scalp in thinning areas. Cleanse delivery devices with rubbing alcohol before and after treatment. For ease of use, apply Hair Serum in the evening and allow product to absorb as you sleep. Using the Home Hair System consistently will yield the best results.

**Standard (5 times weekly):** Use the Thickening Brush or fingertips to spread the Hair Serum and massage in using small circles for 10-20 seconds per area. It is not necessary to press hard, the product will naturally absorb.

**Advanced (1-2 times weekly):** Apply a few drops of Hair Serum to a clean scalp and use the Microchanneling Stamp to gently press up and down over entire treatment area. The tiny needles create microchannels in the scalp that will aid in the delivery of the growth factors from the Hair Serum. You do not need to press hard with the stamp.

The Home Hair System works best when paired with professional hair treatments such as PRP or Microneedling. Your patients may want to start using the Home System before, in between and for ongoing maintenance following in-office treatments.

### KEY SELLING POINTS

- Reduces the rate of hair loss and promotes new growth
- Increases hair fullness, density and overall hair texture
- Contains Bone Marrow Mesenchymal Stem Cell derived cytokines specially treated to influence signaling towards the WNT1 pathway for follicle regeneration - an industry first.
- Includes Jak-STAT biosignal molecule to induce anagen phase hair growth.
- Formulated with a Hyaluronic Acid base, and no toxic ingredients seen in other microneedling solutions.
- Additional recombinant growth factors responsible for hair follicle replication and regeneration are added to activate dormant stem cells within the hair follicle
- Can be used post-procedure on hair transplants to initiate healing response.

## KEY INGREDIENTS & FUNCTIONS

<b>L-Carnitine</b>	Amino acid that serves an important function in energy metabolism. Increases energy supply to the anagen hair matrix. Stimulates human scalp hair growth by up regulation of proliferation and down regulation of apoptosis in follicular keratinocytes.
<b>Caffeine</b>	Counteracts DHT induced miniaturization of the hair follicle by inhibition of phosphodiesterase. Increase in cAMP levels promotes cell proliferation by stimulating cellular metabolism.
<b>Baicalin</b>	A botanical flavonoid with multiple hair growth promoting effects in follicular dermal papilla cells. In addition to enhancing WNT signaling, Baicalin induces the expression of IGF-1 and VEGF and speeds the conversion of hair growth cycle from telogen to anagen. Baicalin also inhibits androgen receptor activity by DHT in human dermal papilla cells, while also enhancing their proliferation.
<b>Adenosine</b>	A nucleoside that up regulates the expression of VEGF and FGF-7 in dermal papilla cells. Reduces follicular miniaturization and thickens hair. A key component in cell respiration, energy metabolism, and cell survival.
<b>Quercetin</b>	Botanical flavonoid and antioxidant, with strong anti-inflammatory properties. Studies show it inhibits PGD2 levels in the scalp, a prostaglandin that is 3x higher in the scalp of men with thinning hair and reduced inflammation levels.
<b>WNT1 BMSC Conditioned Media</b>	Physiologically balanced bio-signals released upon culture of Bone Marrow stem cells. Wnt signaling is regulated during hair follicle replication and regeneration, telogen-anagen reentry and follicular environmental modulation. Fine tuning this signaling allows better communication to the target site (follicle) for desired hair growth.
<b>Cucurbitacin B</b>	Active constituent found in bitter melon and squash. Terpene derivative shown to interfere with the production of a metabolic by-product of testosterone known as DHT (dihydrotestosterone). Elevated levels of DHT contribute to follicular miniaturization. This isolated terpene has been shown to directly inhibit the Jak-STAT cell signaling pathway. Research has shown that pharmacological inhibition of this intracellular pathway promotes rapid hair regrowth by triggering follicular anagen entry; with a synergistic activation of the master Wnt pathway.
<b>Ecklonia Cava Extract</b>	Standardized to 90% active polyphenol content (dieckol, eckol). This botanical shows strong inhibition of 5-alpha reductase, the enzyme that converts Testosterone to DHT, and markedly increases hair growth via the proliferation of dermal papilla cells. DHT inhibition was on par with Finasteride in clinical studies.
<b>Thuja Orientalis Extract</b>	Active constituent of Asian white cedar with a strong 5-alpha reductase inhibition effect. Studies revealed Thuja induced an earlier entry into the active anagen growth phase, as well as prolonged this phase. Gene expression analysis shows that the expression of Wnt, B-catenin, and sonic hedgehog signaling pathways were upregulated by Thuja extract in just 14 days.
<b>Rosemary Extract</b>	Active constituents in Rosemary include rosmarinic acid, ursolic acid, and 12-methoxycarnosic acid (12-MCA). These are shown to have direct anti-androgenic and anti-inflammatory activity, with a significant inhibitory effect on 5-alpha reductase. Rosemary increases localized circulation within the scalp, bringing vital nutrients to nutrient-starved follicles.

**Polygonum  
Multiflorum Extract**

An herb used in traditional Chinese medicine with known pharmacological activity including immunomodulating, anti-inflammatory, and anti-aging. Active constituents include 2,3,5,4'-tetrahydroxystilbene-2-O-b-d-glucoside (THSG), which has been shown to have a melanogenesis-stimulating effect in follicular melanocytes, leading to the potential darkening of hair, while torachryson-8-O-b-d-glucoside induces a strong proliferation of dermal papilla cells, while increasing the hair fiber length in follicles. An increase in fibroblast growth factor-7 (FGF-7), sonic hedgehog, and B-catenin pathways promote rapid hair regrowth, and rapid introduction into the anagen growth phase.

**Panax Ginseng  
Extract**

A popular herb in both eastern and western cultures with pharmacological effects including anti-aging, immunoregulatory, lipid-regulating, and wound healing activity. The most pharmacologically active constituent in Ginseng is Ginsenoside. Studies have shown that this molecule upregulates the expression of vascular endothelial growth factor (VEGF) in human dermal papilla cells within the follicles, leading to an increased nutrient supply, while also protecting these cells from premature death, or apoptosis.

**Eclipta Prostrata  
Extract**

An annual plant widely used in traditional Asian medicine with known antioxidant and anti-inflammatory properties. Its hair growth promoting effects are due to an upregulation of fibroblast growth factor-7 (FGF-7), promoting the induction and elongation of the active anagen phase of growth. In addition, this botanical has shown to stimulate follicular keratinocyte proliferation, while delaying terminal differentiation of the dermal papilla cells by downregulating transforming growth factor beta-1 (TGFb-1), a fibrotic promoting protein that inhibits normal follicular development. Promotion of melanogenesis in the follicle can also lead to hair darkening.

**Oryza Sativa  
(Rice Bran) Extract**

The active constituents in rice bran, including phenolic acids, flavonoids, anthocyanins, tocopherols, and phytic acid, have known antioxidant and anti-inflammatory properties. Two specific isolated fractions, linoleic acid and gamma-oryzanol, have shown to have robust hair growth promoting properties, with studies showing a significant increase in hair density and diameter.

**Laminaria Japonica  
Extract & Cistanche  
Tubulosa Extract**

Laminaria Japonica is a special, brown algae native to far east countries, and known as "kombu" in Japanese. While its hair growth promoting action is not fully understood, it is proposed that the strong anti-inflammatory activity is likely the main role this algae plays in preventing hair loss, improving alopecia, and promoting active growth. Cistanche Tubulosa is a holoparasitic plant native to desert environments. The active constituents include echinacoside, with a higher content than echinacea, and acteoside, with stronger antioxidant properties than resveratrol and vitamin C. The combination of Laminaria Japonica & Cistanche Tubulosa Extract has been shown in clinical studies to have hair growth stimulating effects comparable to 3% minoxidil. Gene expression showed a dramatic reduction in scalp levels of inflammation, as well as an increase in hair growth related proteins including epidermal growth factor (EGF) and vascular endothelial growth factor (VEGF).

**Puerariae Extract**

The Puerariae flower, and its active constituents soyasaponin 1 and kaikasaponin 3, have a strong inhibitory effect against 5-alpha reductase activity, and the application to the scalp showed an improvement of hair growth due to this antiandrogen activity. In addition, it was shown to stimulate the induction of the anagen growth phase.

**Eucalyptus  
Globulus Leaf  
Extract**

A clinical analysis of the topically applied eucalyptus extract to the scalp elucidated some unique benefits to hair, hair strength, and healthy hair characteristics. In addition to increasing scalp ceramide levels, the usage of this extract not only increased hair growth, but markedly increased the elasticity of the new growth hair cortex, leading to stronger, bouncier hair with more luster. Histological analysis showed this was due to a decrease in the alpha-helix structure of the hair shaft, with an increase in the beta-sheet structure.

**Malva Verticillata  
Extract**

Otherwise known as Chinese Mallow, and related to the hibiscus family, this botanical maintains a robust portfolio of active constituents, including mucilage, polysaccharides, flavonoids, myristoleic acid, and anthocyanidins, each with known anti-inflammatory properties. Studies have shown that these active plant matters promoted significant hair growth when applied topically by not only stimulating the proliferation of dermal papilla cells and an increase in IGF-1, KGF, VEGF, and HGF, but that this was all mediated by the modulation of the master Wnt/B-catenin follicular signaling pathway.

**Sanguisorba  
Officinalis  
Root Extract**

A botanical more commonly known as great burnet, with research highlighting its benefit in treatment and prevention of hair loss. The active constituents are known to inhibit fibroblast growth factor-5 (FGF-5), which suppresses the conversion of hair follicles from the resting to growth phase, while blocking the activation of dermal papilla cells. This extract countered the FGF-5 activity leading to hair growth, and less hair shedding.

**Sargassum  
Muticum Extract**

A large brown seaweed commonly known as Japanese wireweed. The main active constituent is apo-9'-fucoxanthinone, and has shown to have significant pharmacological activity against hair loss. Clinical studies showed that the molecule increased hair follicle length, proliferation of dermal papilla cells, and a decrease in 5-alpha reductase activity. In addition, it promoted anagen growth initiation, increased levels of VEGF, and the activation of the master Wnt/B-catenin signaling pathway.

**Acanthopanax  
Koreanum Extract**

A plant native to a special region in Korea, whose main active triterpene constituent, acankoreoside J, has been shown to have a growth promoting effect on hair follicles. Research has shown this is due to the extracts ability to promote the proliferation of dermal papilla cells, increase the hair fiber length, and modulated the levels of B-catenin expression, regulating key cell signaling pathways.

**Angelica Sinensis  
Root Extract**

A botanical native to traditional Chinese medicine, and more commonly known as Dong Quai. In studies, the extract has been shown to promote hair growth, increase hair length, and widen hair follicle diameter. The dominant mechanism of action this extract has proven to work on is the through hair cycle pathways associated with apoptosis regression during the catagen, or resting phase, by decreasing the amount of apoptotic cells.

**Safflower  
Seedcake Extract**

The Safflower plant, and its seeds, are a rich source of active compounds including linoleic acid, and the Hydroxysafflor Yellow A bioactive isolate. This molecular extract has shown to be a potent promoter of hair growth, hair cell proliferation, and the expression of hair growth related genes in dermal papilla cells and keratinocytes. The increase is VEGF and KGF was combined with the downregulation of TGFb-1. The studies showed the extract had a significant increase in the length of the hair follicles, while reducing inflammatory biomarkers.

**Ingredients:**

Water (Aqua), Human Bone Marrow Stem Cell Conditioned Media, Polysorbate 20, Cistanche Tubulosa Extract, Carthamus Tinctorius (Safflower) Seedcake Extract, Laminaria Japonica Extract, Ecklonia Cava Extract, Eclipta Prostrata Extract, Eucalyptus Globulus Leaf Extract, Forsythia Suspensa Fruit Extract, Malva Verticillata Flower/Leaf/Stem Extract, Phyllanthus Niruri Extract, Polygonum Multiflorum Extract, Pueraria Thunbergiana Root Extract, Porphyra Columbina Extract, Oryza Sativa (Rice) Bran Extract, Rosmarinus Officinalis (Rosemary) Extract, Sanguisorba Officinalis Root Extract, Sargassum Muticum Extract, Thuja Orientalis Extract, Sophora Flavescens Root Extract, Acanthopanax Koreanum Extract, Angelica Polymorpha Sinensis Root Extract, Adiantum Capillus-Veneris Leaf Extract, Chlamydomonas Reinhardtii Extract, Panax Ginseng Root Extract, Adenosine, Tocopheryl Acetate, Hyaluronic Acid, Caffeine, Baicalin, Quercetin, Carnitine, Benzyl Alcohol, Dehydroacetic Acid, aFGF (sh-Polypeptide-11), bFGF (sh-Polypeptide-1), CSF1 (sh-Polypeptide-73), EPO (sh-Polypeptide-72), IGF-1 (sh-Oligopeptide-2), IGF-2 (sh-Polypeptide-31), KGF (sh-Polypeptide-3), KGF-2 (sh-Polypeptide-10), Noggin (sh-Polypeptide-13), PDGF (sh-Polypeptide-8), SCF (sh-Polypeptide-4), VEGFA (sh-Polypeptide-9), Cucurbitacin B