

Forti5

Hair Recovery Dietary Supplement

Forti5 is a clinically proven nutritional supplement supported by a six-month clinical study published in the peer reviewed Journal of Clinical & Aesthetic Dermatology (JCAD)*. Forti5 was designed by world leading dermatologists based on the most advanced hair loss research currently available. It helps to restore and support thicker and faster growth of thinning hair through five key pathways:

*Nichols A.J, Hughes O.B, Canazza A, et al. An open-label evaluator blinded study of the efficacy and safety of a new nutritional supplement in androgenetic alopecia: a pilot study. J Clin Aesthet Dermatol. 2017;10(2):52-56

1. *Stimulation of Hair Growth*

- Melatonin
- Green Tea Extract

2. *Prevention of Hair Loss*

- Melatonin
- Vitamin D

3. *Anti-androgenic Properties*

- Melatonin
- Beta-Sitosterol
- Soy Isoflavones

4. *Delivering Key Antioxidants*

- Melatonin
- Soy Isoflavones
- Green Tea Extract

5. *Supplying Anti-inflammatory Benefits*

- Beta-Sitosterol
- Soy Isoflavones
- Green Tea Extract



Properties of Key Ingredients

Melatonin:



Induce Hair Growth and Pigmentation

- The anagen hair follicle (HF) produces melatonin in loco as a cyto-protective and apoptosis-suppressive agent
- Melatonin prevents telogen as it reduces spontaneous apoptosis in HF keratinocytes
- Prevents stress-induced hair loss. Melatonin can protect the follicle from systemic “stressors” associated with high levels of norepinephrine
- Melatonin is a potent antioxidant-free radical scavenger with capacity to stimulate DNA repair
- Melatonin interacts with androgen receptors and has anti-androgenic properties

1. Fischer TW. [The influence of melatonin on hair physiology]. Hautarzt. 2009 Dec;60(12):962-72. Review. German. PubMed PMID: 19957072.
2. Fischer TW, Burmeister G, Schmidt HW, Elsner P. Melatonin increases anagen hair rate in women with androgenetic alopecia or diffuse alopecia: results of a pilot randomized controlled trial. Br J Dermatol. 2004 Feb;150(2):341-5. PubMed
3. Fischer TW, Elsner P. The antioxidative potential of melatonin in the skin. Curr Probl Dermatol. 2001;29:165-74. Review. PubMed PMID: 11225196.
4. Fischer TW, Slominski A, Tobin DJ, Paus R. Melatonin and the hair follicle. J Pineal Res. 2008 Jan;44(1):1-15. Review. PubMed PMID: 18078443.
5. Slominski RM, Reiter RJ, Schlabritz-Loutsevitch N, Ostrom RS, Slominski AT. Melatonin membrane receptors in peripheral tissues: distribution and functions. Mol Cell Endocrinol. 2012 Apr 4;351(2):152-66. Epub 2012 Jan 8. PubMed PMID:22245784;
6. Kobayashi H, Kromminga A, Dunlop TW, Tychem B, Conrad F, Suzuki N, Memezawa A, Bettermann A, Aiba S, Carlberg C, Paus R. A role of melatonin in neuroectodermal-mesodermal interactions: the hair follicle synthesizes melatonin and expresses functional melatonin receptors. FASEB J. 2005 Oct;19(12):1710-2. Epub 2005 Jul 19.

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Vitamin D (Cholecalciferol)

- The vitamin D pathway regulates hair follicle biology in mammals and humans
 - 1,25-dihydroxyvitamin D₃ (1,25-D₃) modulates growth and differentiation of keratinocytes via binding to a high-affinity nuclear vitamin D receptor (VDR)
 - VDR null mutant mice exhibit hair loss that begins with the second hair cycle after birth
 - Mutations in VDR also lead to an inherited form of rickets, type IIA vitamin D–dependent rickets. Patients with this form of rickets also exhibit alopecia
 - VDR and beta-catenin also regulate hair follicle gene transcription
 - When VDR is absent, the synergistic activation of a WNT response element by beta-catenin and Lef1 is prevented
 - Optimal concentration of vitamin D is necessary to delay the aging phenomena, including hair loss
 - Vitamin D deficiency is associated with increased hair shedding
7. Amor KT, Rashid RM, Mirmirani P. Does D matter? The role of vitamin D in hair disorders and hair follicle cycling. *Dermatol Online J.* 2010 Feb 15;16(2):3.
 8. Review. PubMed PMID: 20178699.
 9. Demay MB. The hair cycle and Vitamin D receptor. *Arch Biochem Biophys.* 2011 Oct 7. [Epub ahead of print] PubMed PMID: 22008469.
 10. Oda Y, Hu L, Bul V, Elalieh H, Reddy JK, Bikle DD. Coactivator MED1 ablation in keratinocytes results in hair-cycling defects and epidermal alterations. *J Invest Dermatol.* 2012 Apr;132(4):1075-83. doi: 10.1038/jid.2011.430. Epub 2011 Dec 22. PubMed PMID: 22189783

Beta Sitosterol (*Non competitive 5-alpha reductase type 1 and 2 inhibitor*)

- Phytosterols are 5-alpha reductase inhibitors and are utilized in the treatment of androgenic alopecia and benign prostatic hyperplasia. In a randomized, double blind, placebo-controlled pilot study with 26 male subjects, the effectiveness of a combination of β-sitosterol 50 mg and extract from the berries of saw palmetto showed that 60% of the study subjects were rated as improved as compared with only 11% of the placebo group
 - Provides estrogen and androgen receptor blocking
 - Increases Sex Hormone Binding Globulin (SHBG) levels
 - Provides anti-inflammatory benefits
12. Prager N, Bickett K, French N, et al. A randomized, double-blind, placebo controlled trial to determine the effectiveness of botanically derived inhibitors of 5-alpha reductase in the treatment of androgenetic alopecia. *J Altern Complement Med* 2002 Apr; 8 (2): 143-52
 13. Reuter J, Merfort I, Schempp CM. Botanicals in dermatology: an evidence-based review. *Am J Clin Dermatol.* 2010;11(4):247-67

Soy Isoflavones

Are shown to provide activation of aromatase enzyme involved in the conversion of testosterone into estrogens. They are:

- 5-alpha reductase inhibitors to help block DHT (dehydrotestosterone - known to cause hair loss)
- Antioxidants to help prevent oxidative stress-induced aging of the hair follicle
- Increased SHBG levels. Low levels of SHBG are known to be associated with Male and Female Pattern Baldness

Green Tea Extract

Antioxidant Benefits

- Oxidative stress directly affects the cell membrane and facilitates entry of DHT, DHEAS and other damaging factors into the cell. Reactive oxygen species (ROS) cause sebaceous gland hyperplasia, promote increased type I 5-AR enzyme activity and higher DHT formation

Provides Anti-inflammatory benefits

Increases SHBG levels

Hair Growth Stimulators

- Epigallocatechin-3-gallate, the main polyphenol in green tea, stimulates human hair growth and prolongs the anagen phase through proliferative and anti-apoptotic effects on human dermal papilla cells

14. Kwon OS, Han JH, Yoo HG, Chung JH, Cho KH, Eun HC, Kim KH. Human hair growth enhancement in vitro by green tea epigallocatechin-3-gallate (EGCG). *Phytomedicine*. 2007 Aug;14(7-8):551-5

Omega 3 & Omega 6

- provide potent anti-inflammatory properties
- Inflammation is commonly associated with androgenetic alopecia and other scalp disorders
- Inflammatory cytokines induce telogen and can accelerate progression of androgenetic alopecia

15. Magro CM, Rossi A, Poe J, Manhas-Bhutani S, Sadick N. The role of inflammation and immunity in the pathogenesis of androgenetic alopecia. *J Drugs Dermatol*. 2011

16. Dec;10(12):1404-11. PubMed PMID: 22134564.

17. Bezzola P, Sorbellini E, The role of microinflammation and apoptosis in Androgenic Alopecia: new therapeutical strategies, *Journal of Plastic Dermatology* 2009, 5,1-11

18. Nicolaou A. Eicosanoids in skin inflammation. *Prostaglandins Leukot Essent Fatty Acids*. 2012 Apr 20. PubMed PMID: 22521864

Androgenetic Alopecia (AGA)

AGA is the most common form of hair loss, affecting up to 80% of men and 50% of women in the course of their lives. Androgenetic alopecia is caused by a progressive reduction in the diameter, length and pigmentation of the hair. Hair thinning is limited to the frontal, temporal and vertex areas (androgen dependent scalp regions) and results from the effects of the testosterone metabolite DHT on androgen-sensitive hair follicles. Androgen sensitivity is genetically determined and depends on DHT production through the 5-alpha reductase enzyme.

Sex Hormone Binding Globulin (SHBG)

There is a clinically established inverse relationship between SHBG and AGA in women. Increasing of the SHBG levels reduce bioavailability of sex hormones.

5-Alpha Reductase

5-alpha reductase isoenzymes are responsible for converting free testosterone into DHT. There are 2 isoenzymes : type 1 and 2. In the scalp, type 1 is mainly located in the sebaceous gland and type 2 in the

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hair follicle. Inhibition of type 2 5-alpha reductase is an effective treatment of AGA.

Inflammation

Inflammation is commonly associated with androgenetic alopecia and other scalp disorders. The implication of microscopic follicular inflammation in the pathogenesis of AGA has emerged from several independent studies. Inflammatory cytokines induce telogen and can accelerate progression of AGA.

Oxidative Stress

Oxidative stress may be a pivotal mechanism contributing to hair graying and hair loss. This can be increased by multiple factors including smoking and UV Radiation, which are known to aggravate AGA. Scientific evidence supports the hypothesis that oxidative stress also plays a role in the aging process of the hair follicle. Reactive oxygen species are generated by a multitude of endogenous and environmental challenges. The body possesses endogenous defense mechanisms, such as antioxidant enzymes and non-enzymatic antioxidant molecules, protecting it from free radicals by reducing and neutralizing them. With age, the production of free radicals increases, while the endogenous defense mechanisms decrease. Anti-oxidants can then have an important role in the prevention and treatment of hair loss.

- 19. Trüeb RM. Oxidative stress in ageing of hair. Int J Trichology. 2009 Jan;1(1):6-14. PubMed PMID: 20805969; PubMed Central PMCID: PMC2929555.

Supplement Facts		
<i>Serving size: 1 Capsule</i>		
	Amount per serving	% Daily Value
Vitamin D (as cholecalciferol)	2.5 mcg.	13%
Proprietary Blend (Green Tea (leaf) Extract (<i>Camellia sinensis</i>) (Standardized to 98% Polyphenols, 75% Catechins & 45% EGCG) Omega 3 & Omega 6 (EPA/DHA from Fish Oil, ALA from Flaxseed Oil) (GLA/LA from Borage Oil) Beta Sitosterol Extract (Standardized to 45% Beta Sitosterol) Melatonin to 45% Beta Sitosterol) Melatonin	251.5 mg	*
Soy Isoflavone (seed) Extract (<i>Glycine max</i>) (Standardized to 40% Isoflavones)	150 mg	*
* Daily value not established		
Other Ingredients: Gelatin, Maltodextrin, Silicon Dioxide, Magnesium Stereate		

SUGGESTED USE: As a dietary supplement, adults take two (2) capsules daily at bedtime or as recommended by a physician.

KEEP OUT OF REACH OF CHILDREN
STORE PRODUCT AT ROOM TEMPERATURE. DO NOT EXPOSE TO EXCESSIVE HEAT OR MOISTURE.
NOT FOR USE BY INDIVIDUALS UNDER THE AGE OF 18 YEARS. DO NOT USE IF YOU ARE PREGNANT OR NURSING.

GLUTEN FREE & LACTOSE FREE

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