

Nutraceuticals for Skin and Hair Growth: What do they really do?

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Disclosures

Nutrafol: Research Grants

Church Dwight: Research Grants

Valensa: Research Grants

Benev: Research Grants

Sea Theory: Research Grants

Veradermics: Research Grants

I. What is a Supplement and Why take them?

- Definition: something added to something else to make it complete
- Dietary supplement: ingredients such as vitamins, minerals, herbs, amino acids, and enzymes added to normal diet, for items that may be deficient or low.
- Supplements should be used as an adjunct to healthy nutrition
- consider lab work to determine any deficiencies
- Microbiome affects all body disorders esp. skin/hair/nails
- Patients looking for more natural ways to help hair loss and other dermatologic conditions
- US Congress passes **The Dietary Supplement and Health Education Act of 1994** with over 1000 new products introduced annually
- Nutraceutical: a food containing health-giving additives and having medicinal benefit.
- 25% of men show early signs at 30 and 50% lose hair before age 50
- 50% of all women suffer with hair loss

II. Aspects of Hair Loss

Emotional

Psychological

Interest in “natural”
solutions

Always start with
nutrition/supplements

Diet and nutrition can greatly influence the hair condition and alopecia (and also all skin disorders)

- The negative impact of malnutrition on hair is already well established(1-3)
- Little systemic attention has been paid to the impact of average western diets on hair growth
- Isolated reports have evaluated the influence of various dietary supplements

¹Trost et al., *J Am Acad Dermatol*. 2006

²Strumia, *Am J Clin Dermatol*. 2005


³Patel et al., *Indian J Pediatr*. 1998

⁴Truch, *Hair Growth and Disorders* . 2008

⁵Le Floch et al., *J Cosmet Dermatol* 2015

Le Floch et al., *Therapy*. 2007





Nutrition and Disease Entities

1. Ely. Is psoriasis a bowel disease? Successful treatment with bile acids and bioflavonoids suggests it is. *Clinics in Dermatology* (2018) 36, 376–389
2. Virili et al. Gut Microbiota and Hashimoto's Thyroiditis. *Rev Endocr Metab Disord*. 2018 Dec;19(4):293-300.
3. Islam et al. Immunomodulatory Effects of Diet and Nutrients in SLE. *Front Immunol*. 2020 Jul 22;11:1477.
4. Trikamjee et al. Nutritional Factors in the Prevention of Atopic Dermatitis in Children. *Front Pediatr*. 2021 Jan 12;8:577413.

What Nutrition is Vital to Hair Health?

1. Fatty Fish: contain essential fatty acids, including omega-3s, and vitamin D:

- Tuna, mackerel, salmon, herring
- Fatty fish are also a good source of protein, selenium, and B vitamins, all of which help to promote healthy hair,
- 2017 *Dermatology Practical and Conceptual*.

2. Eggs: contain vitamins, minerals, and nutrients related to healthy hair (protein, biotin, selenium, and zinc).

- Great source of protein: low-protein diet puts hair growth in a “resting” phase, which can lead to hair loss and less hair growth.
- 3 whites and one yolk
- Eggs also have biotin. Being low on biotin has been linked to hair loss, as well as loss of hair color. A 2016 study in the *International Journal of Trichology* found that 38% of women who said they had hair loss were deficient in biotin. Eating egg whites only without the yolk may predispose you to biotin deficiency.

3. Leafy Greens: dark green leafy vegetables are full of nutrients (vitamin A, iron, beta carotene, folate, and vitamin C) that prevent hair loss. Some good choices are:

- Kale, spinach, collards
- One cup of cooked spinach contains 6 mg of iron, According to the World Health Organization (WHO), low iron is the most common nutritional deficiency in the world. It's also linked to many different types of hair loss.
- Vit A helps body make sebum: protects hair by moisturizing scalp.

What Nutrition is Vital to Hair Health, Cont

4. Nuts: nutrient-dense foods for preventing hair loss, (vitamin E, zinc, selenium, omega-3 fatty acids, and potassium).

- Almonds rich in magnesium, which promotes hair growth and prevents hair damage. Almonds supply nutrients to hair follicles making hair stronger, reducing hair shedding (7 a day)
- Walnuts are a rich source of potassium helping with regeneration of cells.(2 a day)
- Brazil nuts: Zinc and selenium are essential trace elements that your body can't make, so it's important to get them through foods like nuts and seeds. These trace elements are important for hair growth, and being low on them may lead to hair loss, (3 a day)
- 2019 *Dermatology and Therapy*.

5. Seeds: supply minerals important for healthy hair (phosphorus, potassium, zinc, Vit E)

- Chia, pumpkin and flax seeds (1 tbsp each)
- Chia seeds have a high content of phosphorus that encourages hair growth
- Pumpkin is a rich source of minerals including potassium and zinc.
- Flax seeds are rich in vitamin E

6. Fruit: rich in compounds for healthy hair (vitamin C and antioxidants)

- Berries (esp. lingonberries and blackberries), cherries, oranges
- Protect hair follicles from free radicals
- Helps your body absorb iron and make collagen (one of the proteins that builds hair and helps prevent hair loss)
- *Virgin coconut oil: 1 tbsp oil on an empty stomach, helps protect hair strands against damage, increases volume

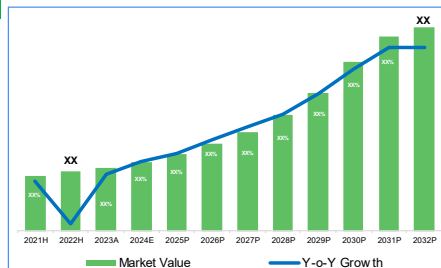


Fig XX: Global Hair Loss Supplement Market Size & Forecast

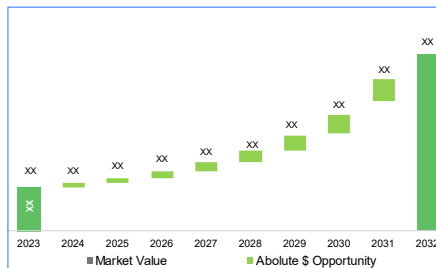
Global Outlook

2021-2032

Global Hair Loss Supplement Market
Market Size (USD Million), Forecast and Y-o-Y Growth, 2021-2032



Global Hair Loss Supplement Market
Market Absolute \$ Opportunity, in USD Million, 2023-2032



By Product Type

Vitamins
Minerals
Proteins
Herbal Extracts

By Form

Tablets
Capsules
Gummies
Powders

By Distribution Channel

Online Stores
Supermarkets/Hypermarkets
Specialty Stores
Others

By End-User

Men
Women
Unisex

Source: Dataintel Analysis

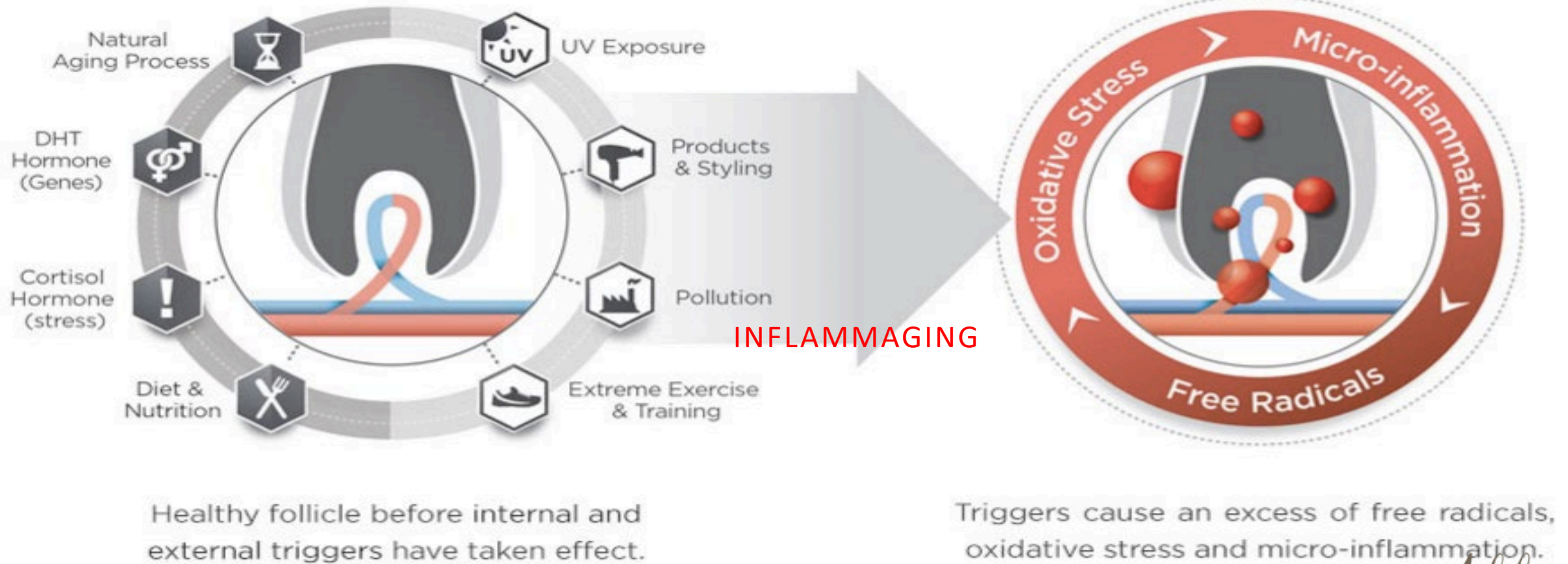
Email: sales@dataintel.com

Website: dataintel.com

- 74% of adults are currently on one or more dietary supplements
- Over \$30 billion annual industry
- Adulteration and lack of clinical data for many supplements
- Need Bioavailability/Efficacy, dosing, safety

A NEW VIEW ON HAIR LOSS

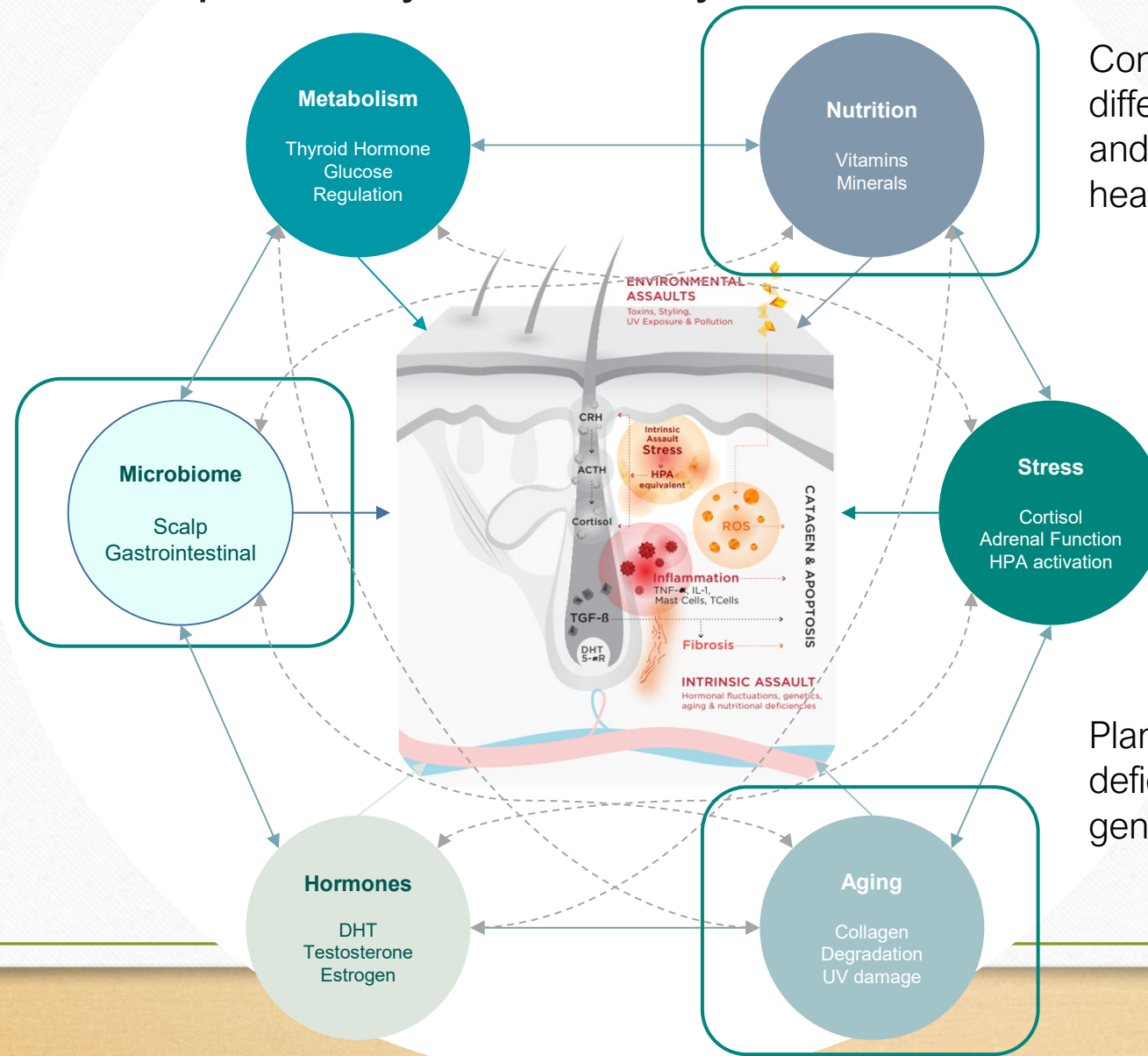
MULTIPLE TRIGGERS | MULTIFACTORIAL ETIOLOGY | INFLAMMATION



Breitkopf T, et al. The basic science of hair biology: what are the causal mechanisms for the disordered hair follicle? Derm Clin. 2013;31(1):1-19

Information Classification: General

The Hair Follicle is Impacted by All Other Systems



Consuming a plant-based diet comes with differences in required vitamins, minerals, and sources of nutrients essential for healthy hair.

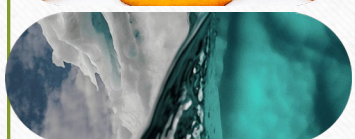
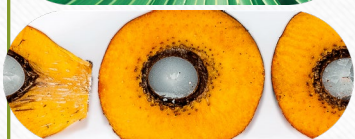
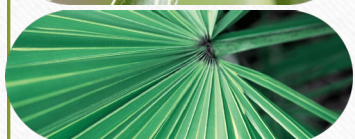
Plant-based diets are susceptible to deficiencies in collagen & keratin which are generally sourced from animals.

Pesticides alter gut microbiome.
Veganism and vegetarianism are associated with changes in the gut microbiome.

A. Synergen Complex Plus

Targeted Solution for women in stages of menopause and hormonal changes

Synergen Complex®



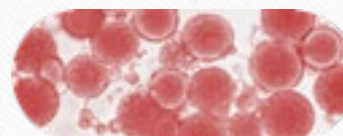
MACA



- Organic bio-optimized Maca root (Peru)
- Macamides are phytoactives adaptogens
- Helps to balance sex hormone signaling: Estrogen, Testosterone, Progesterone
- Tones the Brain to Gonad and Adrenal axis before, during, and after menopause
- DHT blocking action
- Side benefits: Alleviates menopausal symptoms: hot flashes, sweating, sleep, mood, headaches

Synergen Complex Plus

ASTAXANTHIN



- Extracted from Red Algae
- Most powerful antioxidant
 - 6000x greater than Vitamin C
 - 550x greater than ECGC in Green tea
 - 550x greater than Vitamin E
- Reduces levels of oxidative stress in mitochondria
- Reduces pro-inflammatory cytokines (IL-8)
- Protects against lipid peroxidation
- Improves skin related signs of aging

EXTRA SAW PALMETTO



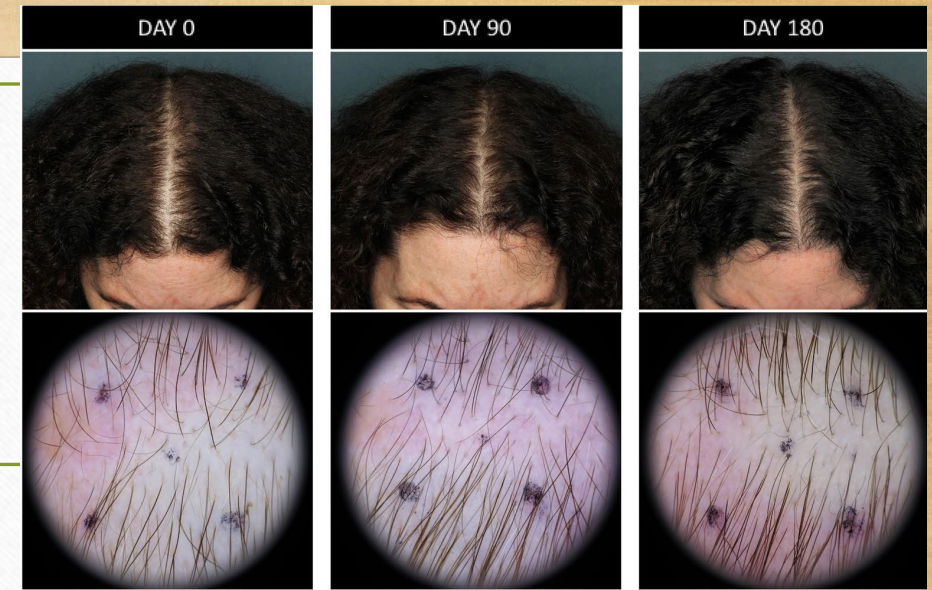
- Added DHT-blocking support
- Dual-patented CO2 ultra-high-pressure technology
- A clinically proven and recognized potent natural DHT-Inhibitor
- Helps prevent conversion of T to DHT and binding to androgen receptors

A Randomized, Double-Blind, Placebo-Controlled Study of a Nutraceutical Supplement for Promoting Hair Growth in Perimenopausal, Menopausal, and Postmenopausal Women With Thinning Hair

Glynis Ablon MD FAAD,^a Sophia Kogan MD^b

Sixty subjects (33 active; 27 placebo) completed the 6-month randomized phase of the study.

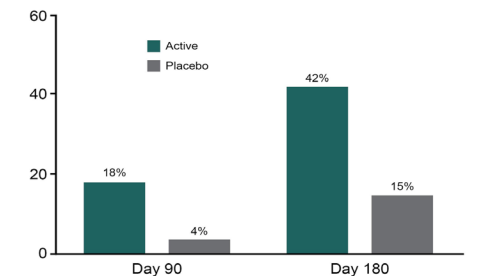
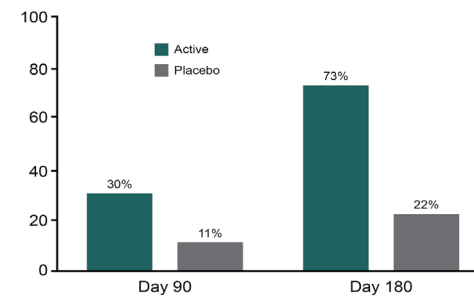
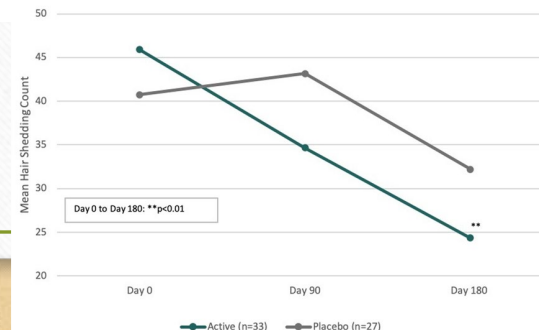
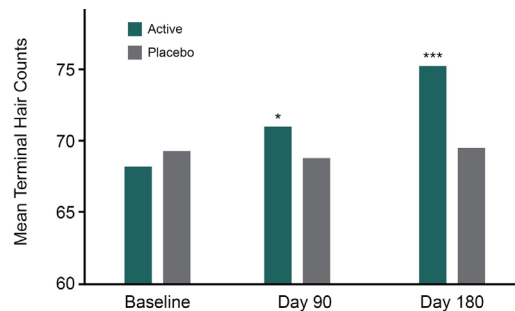
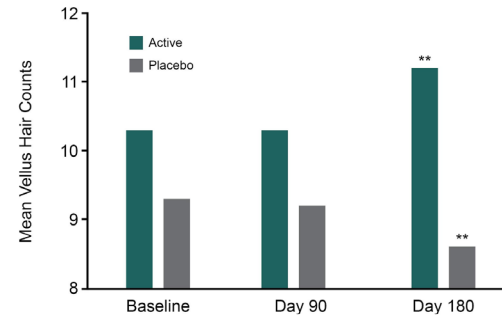
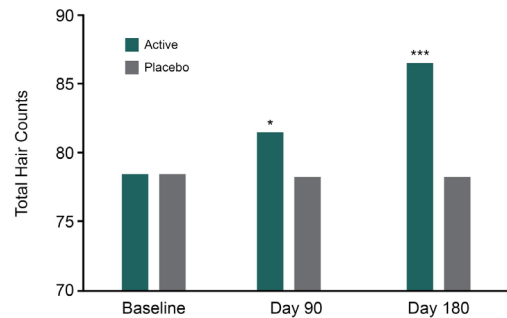
Statistically significant improvements compared to placebo for the number of terminal, vellus, total hair counts and shedding across the duration of the study.



62 year old, post-menopausal asian women

Secondary Endpoints

Blinded physician assessment of global photographs for hair quantity & quality



Statistically significant and progressive improvement for the active compared to the placebo across visits on both Growth and Quality scales (all ps<0.05)

A Long-Term Study of the Safety and Efficacy of a Nutraceutical Supplement for Promoting Hair Growth in Perimenopausal, Menopausal, and Postmenopausal Women

Glynis Ablon MD FAAD,^b Sophia Kogan MD,^a Isabelle Raymond PhD^a

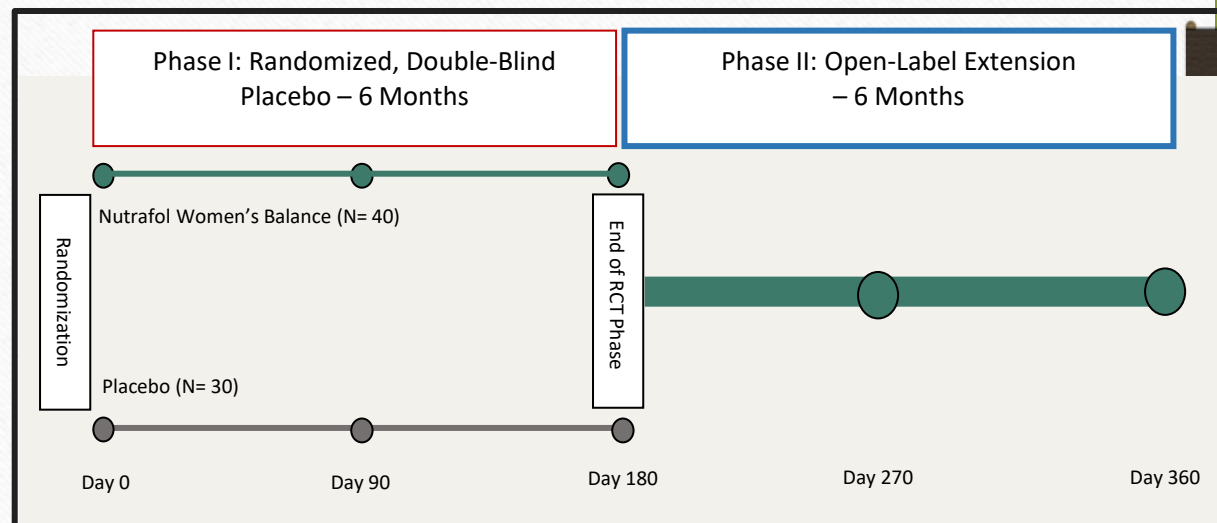
^aNutraceutical Wellness LLC, New York, NY

^bAblon Skin Institute and Research Center, Manhattan Beach, CA

Objective: Here, we present results of a 12-month study assessing the efficacy of a nutraceutical supplement in promoting and improving growth of hairs in perimenopausal, menopausal and postmenopausal women with self-perceived thinning hair.

Design: The full 12-month study period, including the extension phase, consisted of six clinic visits at baseline, Day 90, 180, 270 and 360.

- Phototrichograms were obtained of the target area during each visit via macrophotography for hair count analysis.
- Hair wash shed count was also conducted at each visit.
- 2-dimensional standardized global photographs were obtained of the entire head, hair to assist a blinded investigator in grading
 - hair growth
 - hair quality (texture, shine, dryness, scalp coverage, hair brittleness and overall appearance)



Among subjects in the Active group for 12 consecutive months (Over Time)

- Mean terminal hair counts progressively increased from Day 0 to Day 360, corresponding to a significant **13.4%** improvement ($p<0.0001$)
- Mean total hair counts increased significantly and progressively from Day 0 to 360, culminating in a mean increase of **11.7%** ($p<0.0001$).
- Shedding significantly decreased by **43.2%** on Day 180 ($p<0.01$), remaining stable through Day 360 ($p<0.01$ vs. baseline)
- Global hair growth improvement ratings increased significantly **43%** from Day 90 to 180 ($p<0.001$) and 25% from Day 90 to 360 ($p<0.05$).
- Global hair quality improvement ratings significantly increased by **24%** from Day 90 to 180 ($p<0.05$) and by **37%** from Day 90 to 360 ($p<0.005$).

Among subjects in the Active group for 12 consecutive months (Over Time)

- Reported overall increased **81%** hair growth, **84%** increased volume, **78%** increased scalp coverage, and **81%** increased amount of new hair.
- **85%** of subjects being 'Satisfied' with their hair by the end of the study
- *Women's Hair Loss Quality of Life Questionnaire* showed positive changes from baseline until the end of the study:
 - **≥30%** increased improvement for 'Feeling Embarrassed', 'Avoiding Social Gatherings' and 'Fearing Being the Center of Attention'
 - **≥20%** increased improvement for 'Self-esteem', 'Being Self-Conscious' and 'Feeling Unattractive'.
- *Menopause Rating Scale Questionnaire* showed most symptoms that were rated as 'severe' or 'very severe' at baseline were either 'moderate', 'mild' or 'none' by Day 360, including '**hot flashes**', '**sleep problems**' and '**depressive mood**'.
- **56%** improvement in severity for '**physical and mental exhaustion**'
- Symptoms of '**sexual problems**,' '**irritability**' and '**anxiety**' showed a **44%** improvement by ≥1-point in severity from Day 0 to 360.

Long-Term Efficacy of a Nutraceutical Supplement for Promoting Hair Growth in Perimenopausal, Menopausal and Postmenopausal Women with Self-Perceived Thinning Hair.

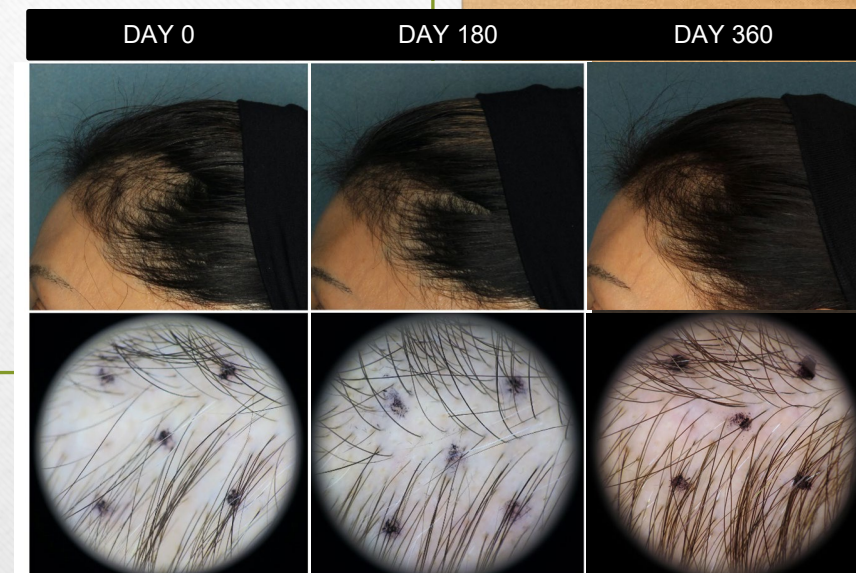
Ablon G., Kogan S., Raymond, I.

Menopause, 2021;28:12.

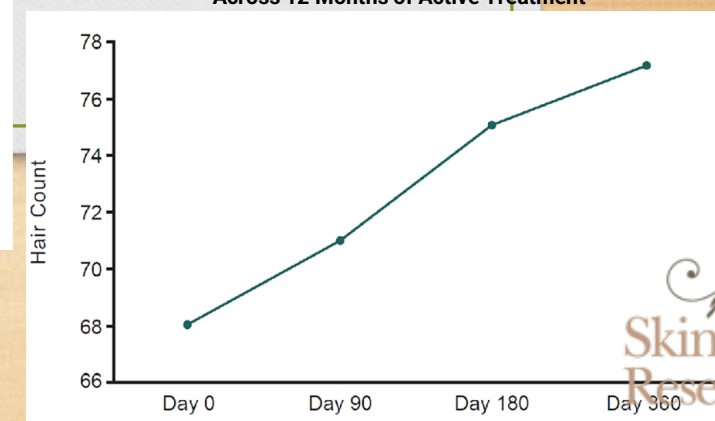
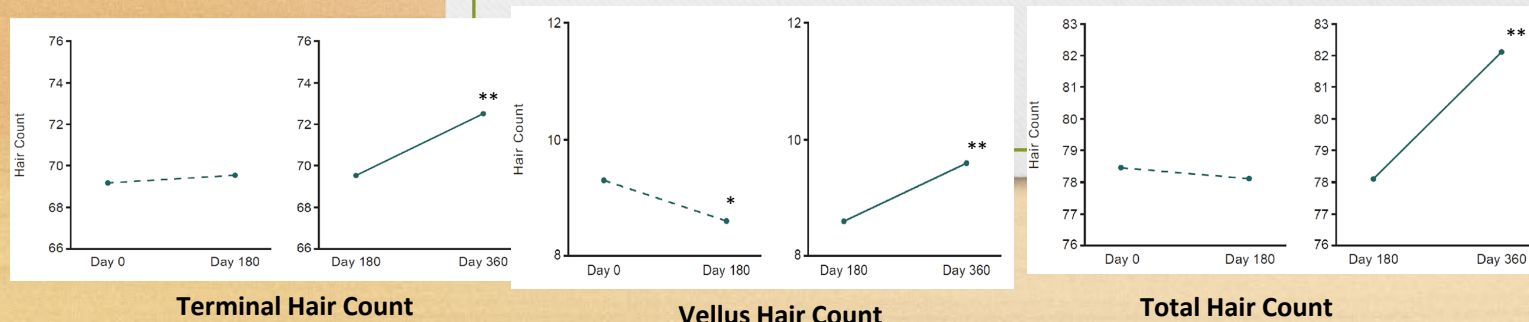
Progressive and statistically significant improvements for terminal (13.4%) and total (11.7%) hair counts from day 0 to day 360 for subjects in the active group

Sixty subjects (33 active; 27 placebo) completed the 12 month study (6-month randomized phase; 6-month extension)

Subjects originally taking placebo, then switched to active Nutraceutical had significant improvements in **terminal, vellus and total hair growth, and hair shedding**



Progressive and Significant Increase in Terminal Hair Counts Across 12 Months of Active Treatment



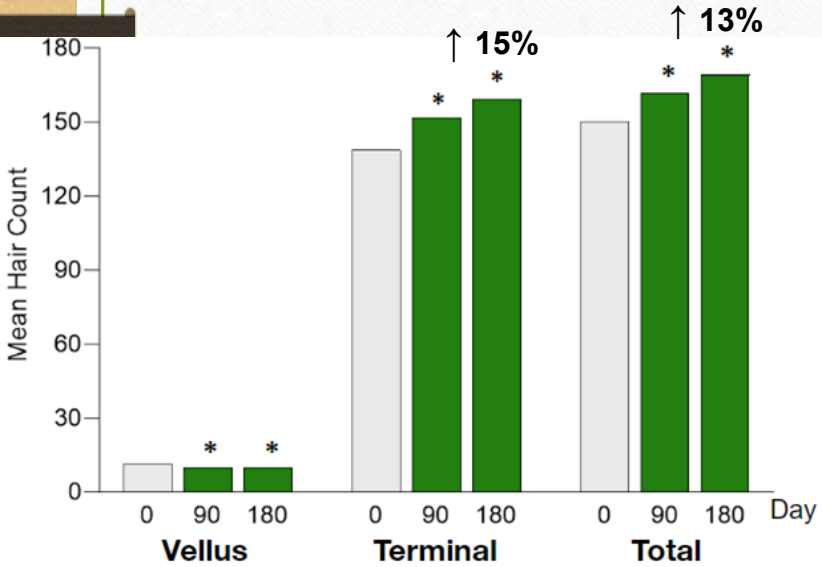
A Prospective, Multi-Center Study to Evaluate the Safety and Efficacy of a Vegan Nutraceutical to Improve Hair Growth and Quality in Females Following a Plant-Based Diet

Raja K. Sivamani MD MS AP,^{a-d} Glynis Ablon MD FAAD,^{e,f} Yvonne Nong MD,^b Jessica Maloh ND,^b
Adina Hazan PhD,^g Isabelle Raymond PhD^g

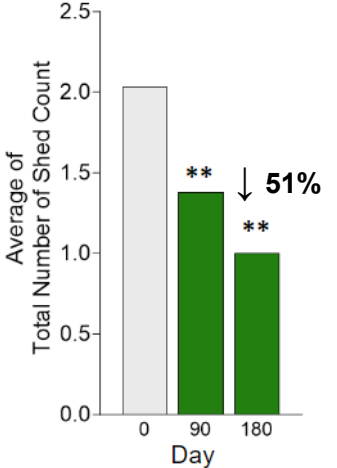
95 women following a plant-based diet completed the 6-month study.

The vegan nutraceutical improves hair growth, strength, brittleness, and shedding

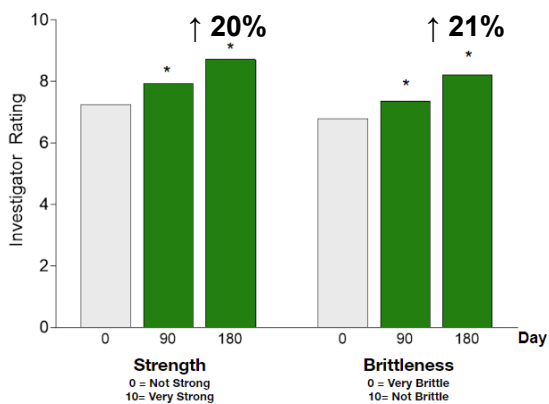
Primary Endpoint:
Increase in terminal hair counts at day 180



Hair Shedding Significantly Decreased



Hair Strength and Brittleness improved



35 Year Old, Mixed Race/Other Pacific Islander, Vegetarian

Improvements in Quality of Life Affected by Hair Over 6 Months

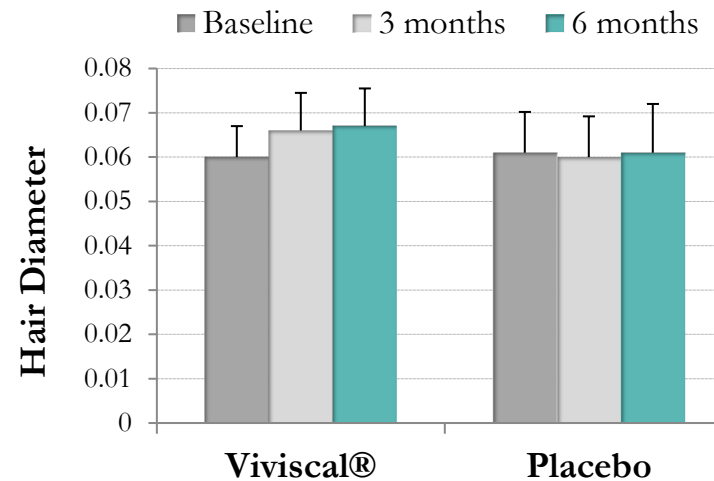
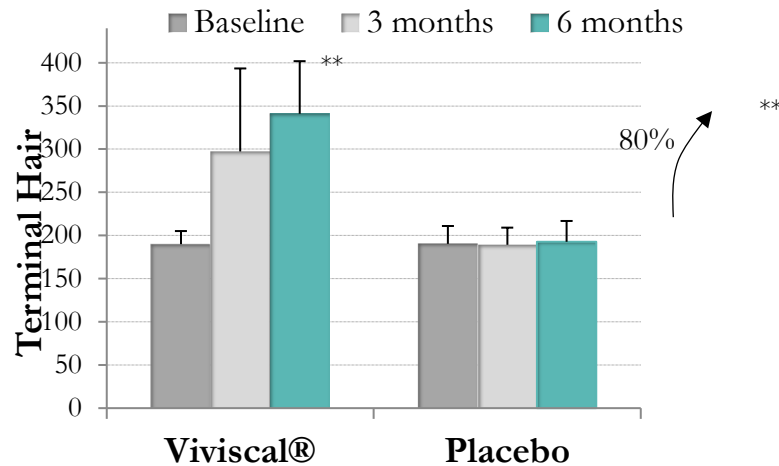
In the past week...	"Not at all" Day 0	"Not at all" Day 180
how self-conscious have you been about people looking at your hair?	17%	37%
how jealous/ envious have you been about other people who have lots of hair?	12%	32%
how unattractive have you felt because of the problems with your hair?	14%	52%
how much was socializing with people you didn't know uncomfortable for you because of the problems with your hair?	48%	74%
how much time have you spent making your hair look fuller/thicker because of the problems with your hair?	11%	40%
The problems with my hair make me feel as though I appear older.	19%	40%

B: Deep Sea Fish Protein

- Amino Mar: 28% Marine Protein Complex
 - Shark cartilage and oyster extract powder
- L-Cysteine and L-Methionine
- Vitamin C(acerola)
- Biotin
- Equisetum sp(horsetail extract)
- Apple Extract powder(procyanidin B2)

Supplement enhances existing hair growth and diameter

- 40 women were randomized to either receive daily doses of DeepSeaProtein or a placebo for 6 months
- The change in hair count was assessed on a 4 cm² area of scalp using phototrichograms



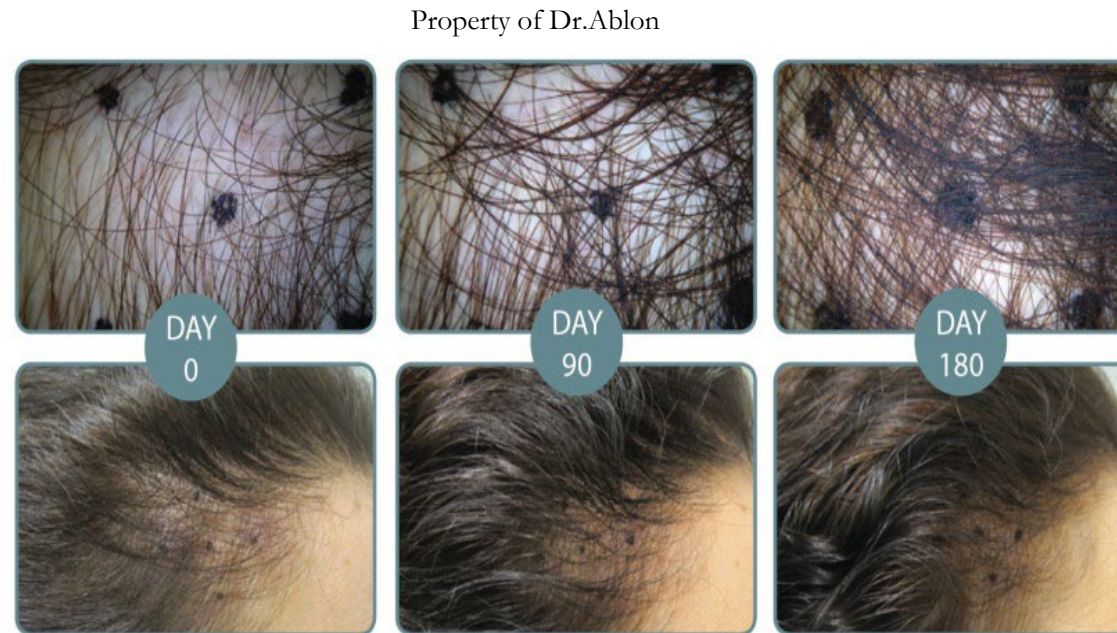
→ 57% increase in hair count after 3 months of daily treatments

→ 80% increase in hair count after 6 months

→ 12% increase in hair diameter after 6 months

Continuous use promotes visible hair growth

- Subjects' scalp was photographed at the baseline as well as after 3 and 6 months



Ablon & Dayan, *Journal of Clinical and Aesthetic Dermatology*. 2015

II. Double-blind, placebo-controlled clinical trials establish safety and efficacy of Marine Extract Protein in **males**

Day 0



Day 90



Day 180



C. Xtressé Nutrient Gummy Key Differentiators



- First gummy nutraceutical to include multiple proven bioactive ingredients for hair health only previously available in tablet and capsule form
- Formulated with ingredients backed by hundreds of published research and clinical trial references
- Biotin-free formulation
- Fills a patient gap that can't or won't take tablets, offering better compliance
- No mega dosing, formulated at or below recommended daily allowance (RDA) and adequate intake (AI)
- Synergistic regenerative blend targets the key potentiators known to contribute to hair thinning and loss



Ingredients Target the Key Potentiators of Hair Loss

Proprietary X3-BioActive Blend™

Saw Palmetto ♦ Turmeric ♦ Ashwagandha ♦ Horsetail Extract

★ With 4 Key Regenerative Ingredients

NAD+

Fundamental for cell metabolism, signaling, senescence, and aging related to hair loss, NAD+ shows anti-inflammatory expression under stimulation of DHT and oxidative stress.¹

Taurine

Naturally-occurring beta-amino acid that provides anti-inflammatory and antioxidant benefits to help promote microbiome health, immune system function and cell survival²

Pumpkinseed Extract

Natural, nutrient-rich ingredient with anti-inflammatory and antioxidant properties to block damaging oxidative stress responsible for hair loss³

Pea Sprout Extract

Natural ingredient with anti-inflammatory and anti-oxidant properties that has been shown to have direct effects on hair growth by stimulating the expression of genes FGF7 and noggin⁴

X3-Micronutrient Blend™

Vitamin A ♦ Vitamin C ♦ Vitamin D3 ♦ Vitamin E ♦ Vitamin B6

Magnesium ♦ Niacin ♦ Folic Acid ♦ Zinc

ANTIOXIDANT

ANTI-INFLAMMATORY

ANTI-MICROBIAL

IMMUNOMODULATOR

REGENERATIVE

ANTI-ANDRIOGENIC

ANGIOGENIC

Ablon

Skin Institute &
Research Center

1. Conlon NJ. The Role of NAD+ in Regenerative Medicine. Plast Reconstr Surg. 2022 Oct 1;150(4 Suppl):41S-48S. doi: 10.1097/PRS.0000000000009673. Epub 2021 Sep 28. PMID: 36170435; PMCID: PMC9512238. MESSENGER, A. G. (2013). THE ROLE OF INFLAMMATION IN HAIR LOSS. INTERNATIONAL JOURNAL OF TRICHOLOGY, 3(3), 167-176. <https://doi.org/10.4103/0974-7753.125609>

2. [6] HASAN R, JUMA H, EID HA, ALASWAD HA, ALI WM, ALADRAJ IJ. EFFECTS OF HORMONES AND ENDOCRINE DISORDERS ON HAIR GROWTH. CUREUS. 2022 DEC 20;14(12):E32726. DOI: 10.7759/CUREUS.32726. PMID: 36578854; PMCID: PMC9788837

3. Grothe T, Wandrey F, Schuerch C. Short communication: Clinical evaluation of pea sprout extract in the treatment of hair loss. Phytother Res. 2020 Feb;34(2):428-431. German. doi: 10.1002/ptr.6528. Epub 2019 Nov 3. PMID: 31680356; PMCID: PMC8246764..

Case Study 1:

Before (Day 0)



After (Month 2)



Case Study 2:

Before (Day 0)



After (Month 2)



D. Serenoa Repens(saw palmetto) supplements

- 60 patient study men and women in progress
- Natural 5 alpha reductase type I and II inhibitor
- Reduces DHT
- Reduces shedding
- Side Effects: rare
- Possibility of missing early prostate cancer detection
- Best on vertex scalp hair growth

Sundee et al. *Clin Cosm Invest Dermatol* 2023;16:3251

Hair Supplement Ingredients to Look For:

- **Ashwagandha:** plant increases energy, improves stress resistance
 - Adaptogenic botanical with steroidal lactones, mimic corticosteroids to modulate cortisol levels
- **Astaxanthin**

 - Carotenoid from red algae, potent antioxidant(6000>VitC)
 - Decrease oxidative stress and decrease proinflamm cytokines (IL-8)
- **Marine Collagen**
 - Build structural integrity of hair follicle, also helps aging skin
- **Turmeric** (curcuma longa)
 - Anti-inflammatory, antimicrobial, antioxidant, and anti-neoplastic,
 - active is curcumin inhib 5 alpha reductase, also prevents follicular regression (inhib nuclear factor Kbeta, TNF, IL-1)
- **Red Clover**
 - Flavonoid biochanin A-inhib 5 alpha reductase
- **Maca Root**
 - Source of essential AAs, Vitamin C, copper, Iron and calcium
 - Key active is imidazole alkaloids lepidiline, balances endogenous sex hormones
 - Adaptogenic, reduce cortisol

Hair Supplement Ingredients to Look For: Cont.

- **Methsulfonylemethane:** anti-inflammatory, antioxidant and immune function modulation
- **Amino acids** (L-cysteine, L-Methionine, and Taurine)
 - The amino acids most prevalent in keratin for hair protein synthesis
- **Piperine** (piper nigrum): from black pepper
 - Immunomodulating, anti-inflammatory, antioxidant, and anti-neoplastic
 - Inhib 5 alpha reductase and enhance bioavail of other nutraceuticals
- **Saw Palmetto**(serenoa repens): from fruit of palm tree
 - Inhib 5 alpha reductase
- **Horsetail** (equisetum): high inhib of 5 alpha reductase, lipid peroxidation
- **Minerals** (Iron and Zinc):
 - Both frequent deficiency common in patients with hair loss
- **Vitamins:** A,B(biotin=B7, niacinamide B3),C(ascorbic acid, acerola)D,E(tocotrienols), and folic acids
 - Biotin coenzyme for fatty acid synthesis, deficiency rare(well balanced diet)-supp can interfere with immunoassays for TSH, antithyroid Abs, troponin
 - Niacinamide: promote DNA repair, prevents UV-induced immunosuppression(photoprotection), and carcinogenesis
 - Vitamin D: hypercalcemia with high doses(useful in AD, psoriasis, and melanoma prevention)

Is Biotin Supplementation Dangerous and Does it Really Work??

- Biotin (vitamin B7) is a water-soluble vitamin acts as a coenzyme of four kinds of carboxylase
 - Carboxylase enzymes for gluconeogenesis, fatty acid synthesis, and amino acid catabolism
- The Food and Nutrition Board of the Institute of Medicine has recommended 0.03mg/day of biotin, with normal Western diet consisting of 35 to 70 µg/day. High dose OTC biotin supplements (≥ 5 mg/day, which is 166 times the dietary recommendation)
- Whether acquired or congenital, typical symptoms of biotin deficiency include alopecia, eczematous skin rashes, seborrheic dermatitis, conjunctivitis, and multiple neurological symptoms, such as depression, lethargy, hypotonia, and seizures.
- No clinical trials supporting claims that biotin supplementation improves hair and nail growth or quality.
- Biotin-induced interference not only on TFTs immunoassays, hormone testing, and troponin. Interference also observed with b-HCG, HIV, hepatitis, and vitamin D assays --discontinue 2-5 days before lab draw

*Li et al. Trends in Daily Use of Biotin Supp Among US Adults, 1999-2016. *JAMA*. 2020 Aug 11;324(6):605-607

*Yelich et al. Biotin for Hair Loss: Teasing out the evidence. *JCAD*

*Souza, McMichael. New Considerations for Biotin use in Hair Disorders. *The Dermatologist*. Dec 2018: 39-43

III. Could Acne be a **Systemic** Condition?



Stress

Systemic stress responses can induce a local inflammatory cytokine response via the cutaneous neuroendocrine axis in the skin



Diet and Metabolism

High glycemic diets, insulin and insulin-like growth factor are associated with inflammation leading to acne



Microbiome

Poor biodiversity of the gut and skin microbiome leads to the overgrowth of inflammatory & pathogenic bacteria and fungal microbes

Poor intestinal barrier integrity increases systemic inflammatory response



Hormonal

Excess androgens stimulate sebocytes, and sebaceous gland activity is a driver of inflammation in the PSU



Oxidative Stress

Oxidized lipids trigger inflammatory responses



Immune System

Elevated T cell/macrophage response in skin and upregulated pro-inflammatory cytokines

A. Timeline and Results:

Ablon, A 12-Week, Randomized, Double-Blind, Placebo-Controlled Study of the Safety and Efficacy of a Nutraceutical Supplement for Mild to Moderate Non-Cystic Acne in Young Adults. *JCAD* Nov 2024:39-45

• Day 14

Initial Post-Baseline Assessment

- Inflammatory Lesions: 10.1% ↓
- Non-inflammatory Lesions: 8.5% ↓
- IGA Score: 5.2% ↓

• Day 56

Continued Improvements:

- Inflammatory Lesions: 37.3% ↓
- Non-inflammatory Lesions: 31.1% ↓
- IGA Score: 28.6% ↓

• Day 28

Notable Progress:

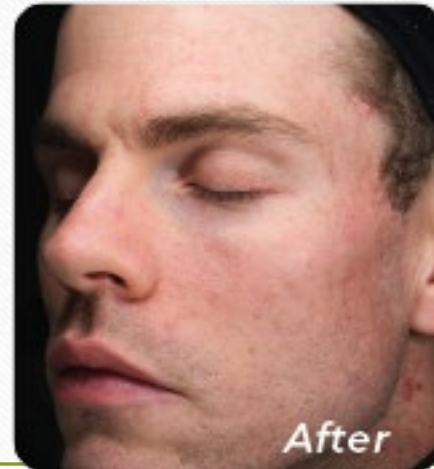
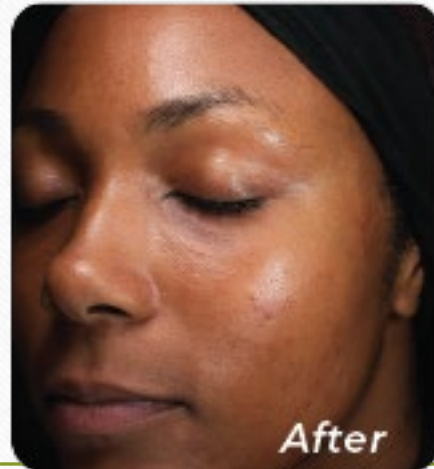
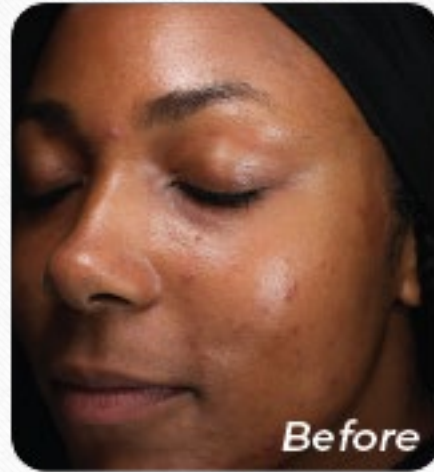
- Inflammatory Lesions: 24.5% ↓
- Non-inflammatory Lesions: 19.1% ↓
- IGA Score: 15.2% ↓

• Day 84

Significant Results:

- Inflammatory Lesions: 51.4% ↓
- Non-inflammatory Lesions: 44.3% ↓
- IGA Score: 39.1% ↓

Study Timeline and Key Result

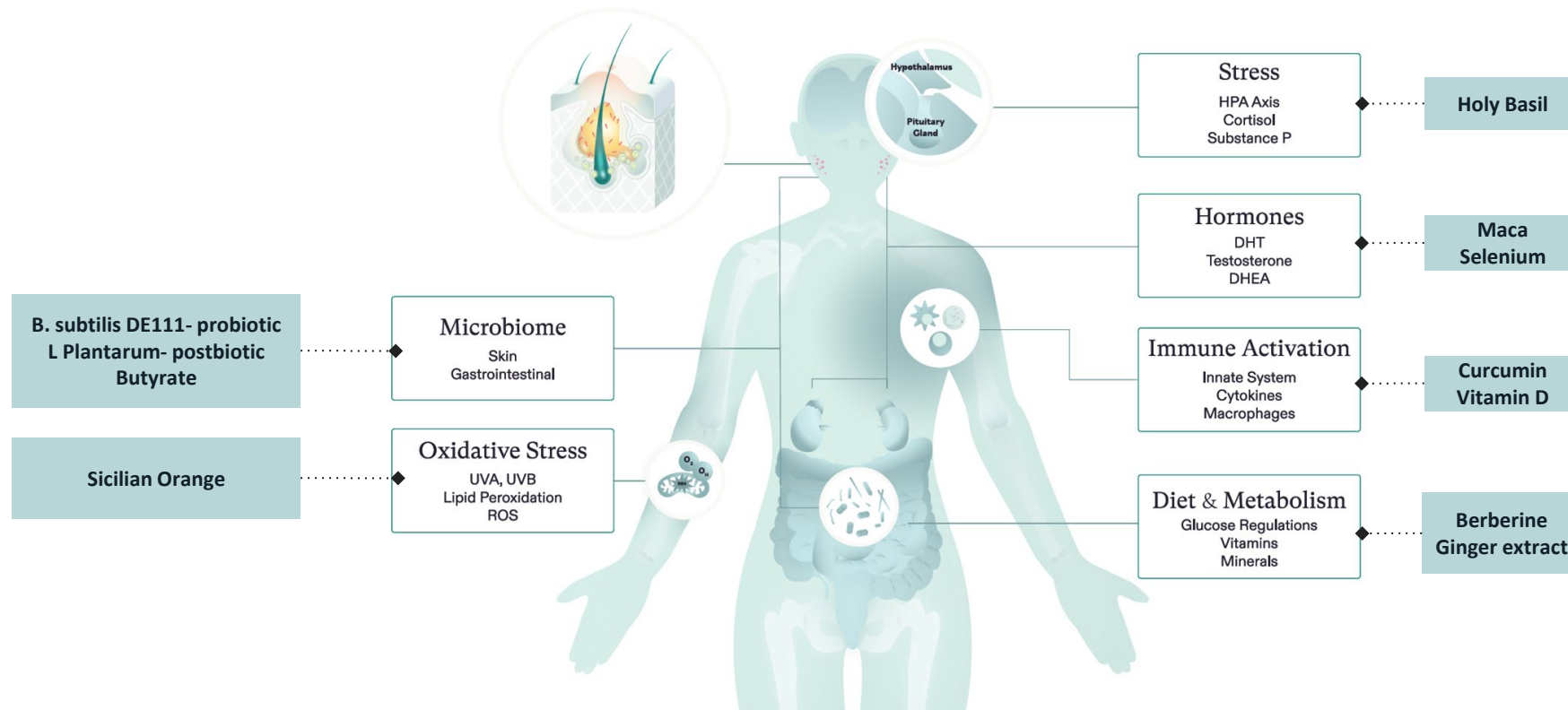


At the end of the 84-day study, participants who actively used the **Clear Skin Formula nutraceutical experienced significant improvements in their skin.**

- Significant reduction in inflammatory acne lesions
- Significant reduction in non-inflammatory acne lesions

A Novel Systems-Wide Approach in Addressing Acne With a Multi-Targeting Nutraceutical

Cheryl Burgess MD,^a Michael Gold MD,^b Patricia K. Farris MD,^c Adina Hazan PhD,^d Isabelle Raymond PhD^d



B. A Randomized, Placebo-Controlled Trial for the Efficacy and Safety of a Nutraceutical Addressing Key Systemic Drivers of Acne

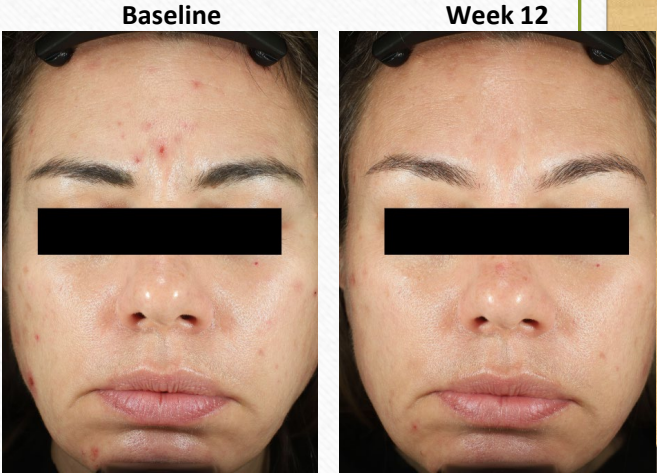
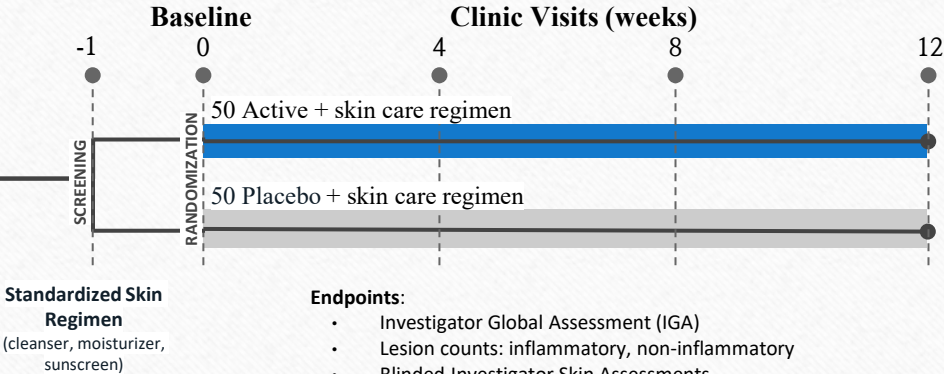
Zoe D. Draelos MD^a, Dylan Bassett PharmD^b, Adina Hazan PhD^b, and Isabelle Raymond PhD^b

^aDermatology Consulting Services, PLLC, High Point, NC; ^bNutraceutical Wellness, Inc, New York, NY

A total of 102 women enrolled, with 47 active (mean age 30.8) and 45 placebo (mean age 31.6) completing the study per protocol.

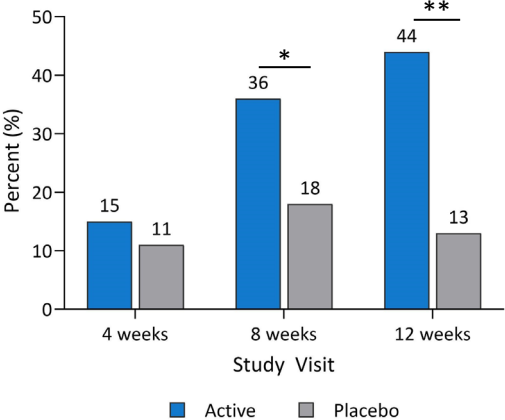
Study Population

100 adult females
Age 18-50 years old
Mild to moderate, non-cystic acne
Washout: no oral or topical acne products (≥ 2 weeks - 6 months)

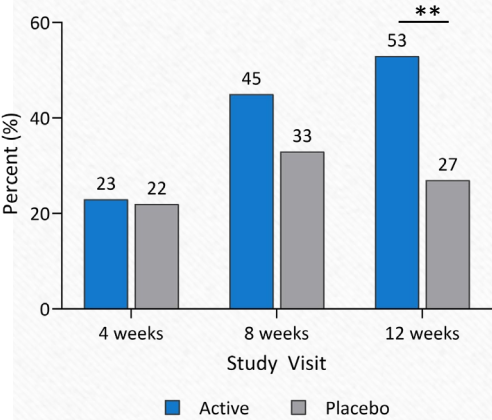


Significant Improvements in IGA

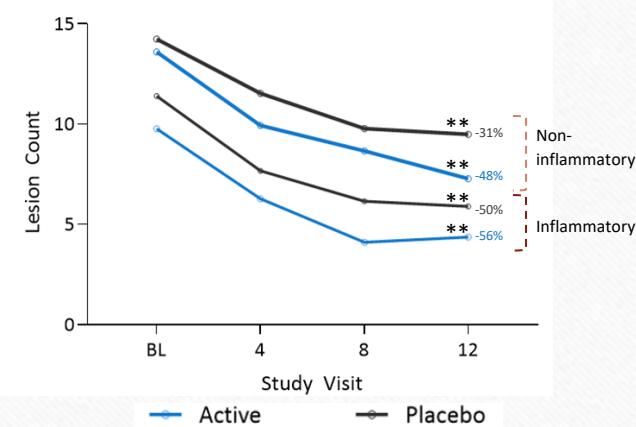
Percent of Subjects Achieving Clear/Almost clear (IGA 0/1)



Percent of Subjects with Improved IGA Ratings

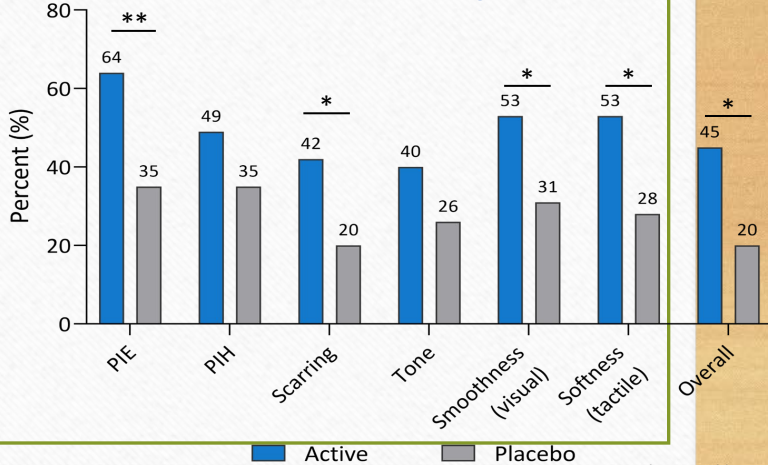


Significant Improvements in Lesion Counts



Significant Improvements in Skin Qualities

Percent of Subjects Achieving Positive Rating (0/1)



Significant decreases in inflammatory and non-inflammatory lesion counts in active and placebo groups compared to baseline.

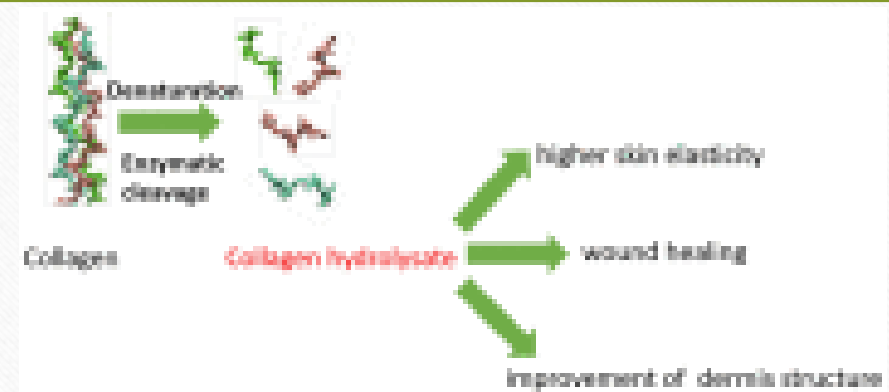
*p<0.05, **p<0.01

Conclusion

The novel nutraceutical developed to address key underlying root causes of non-cystic acne in adult women significantly improved mild to moderate acne and skin parameters alone when compared to placebo.

Collagen Supplement: Hip or Hype

- Bioactive peptides, such as collagen hydrolysate, most used ingredients for the development of nutraceuticals (enzymatic or chemically degraded collagen provides mix of dipeptides, tripeptides and amino acids)
- Peptides resulted from ingestion of hydrolysate collagen and detected in the blood stream have chemotactic properties for skin fibroblasts, helping the skin restoration process, building block for collagen, elastin and hyaluronic acid
- Antioxidants and chelate metals
- Metanalysis of 19 studies from Brazil**
 - 90 days effective in reducing skin aging (reduces wrinkles, improves skin elasticity, and hydration)
- Consider organic bone broth



Lupu et al. Beneficial effects of food **supplements** based on hydrolyzed collagen for **skin care**. Exp Ther Med. 2020 Jul;20(1):12-17(Romania)

**Miranda et al. Effects of hydrolyzed collagen supplementation on skin aging: a systematic review and meta-analysis. Int J Dermatol. 2021 Dec;60(12):1449-1461.

Summary

Always start with nutrition discussion

Look at what vitamins, minerals, amino acids your current diet provides

30% of adults, 12% of kids use complementary or alternative therapy

Evidence for safety and efficacy is limited but improving with more studies on supplements in dermatology

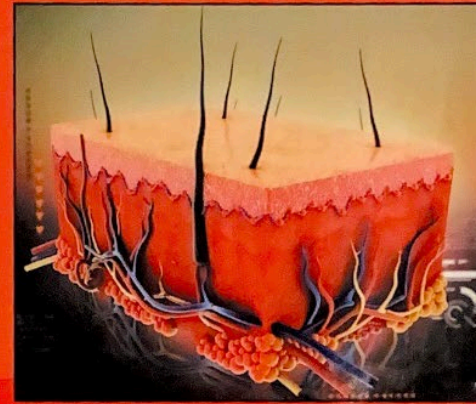
Expanding to other diagnoses in addition to hair loss, skin and nail health

More high-quality investigations with standardized dosing, outcome measure and adverse effects reporting are needed.

Remember supplements that help hair health will also help nails

Clinics Review Articles

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July 2021

Glynis Ablon, MD, FAAD

Ablon Skin Institute & Research Center
Manhattan Beach, CA
Associate Clin Prof UCLA Dermatology



Associate Clinical Professor - UCLA

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A collection of logos and magazine covers. The top row includes logos for NBC, ABC, FOX, Lifetime, style., E! Entertainment, CBS, EXTRA, and The Doctors. The bottom row shows covers of Newsweek, Allure, ZOOMER, and Shape magazines, all featuring Glynis Ablon.