new multivitamin power serum

professional training manual

dermalogica®
a skin care system researched and developed by The International Dermal Institute

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introduction

The desire for products designed to treat aging skin continues to escalate globally as the general population grows older, and as younger individuals become more interested in preventing the signs of premature aging. Fortunately, in recent years, science has provided us with ways of slowing down the aging process of skin by protecting against physiological and environmental stressors, and even reversing photoaging. Studies[1] on the impact of vitamins, especially as they relate to the aging process, continue to support their incorporation into cutting edge skin care treatments.

Research shows that while an adequate complement of vitamins are indeed essential for preventing and reversing many of the signs of aging, a well-balanced diet (or even ingestion of vitamin supplements) is not enough to maintain optimum health of our skin. Consequently, the last fifteen years has seen a flurry of cosmeceutical products using vitamins as active therapeutic agents. In 1998, Dermalogica launched the MultiVitamin Power System, which was the first line of cosmeceutical products to feature a complex of vitamins for optimum skin health rather than focusing on just one specific vitamin. We have expanded the line through the years and, to this day, these products are amongst the best-selling Dermalogica products.

Despite the benefits attributed to incorporating vitamins into skin care products, there are certain limitations for their use due to their chemical nature. For example, exposure to air, water and light, plus specific packaging issues must all be considered to ensure ingredient and formula stability during product development. As such, Dermalogica implemented specific precautions to help minimize oxidation.

Using alternative, more stable vitamin derivatives and exploring advances in delivery systems, such as encapsulation, have been the focus of scientists at The International Dermal Institute for the past decade. We have found that newer forms of vitamins deliver higher activity than their typical counterparts, and a new generation of encapsulated vitamins provides optimum stability and greater physiological effectiveness. Dermalogica's newest product, MultiVitamin Power Serum, is the result of this latest research.

1. New Study evaluates effectiveness of vitamins for the treatment of sun damaged skin. April 12, 2010 www.aad.org

For years, scientists have known that loading actives into a liposome, a closed spherical bubble-like structure made up of phospholipid bilayers, can facilitate delivery of actives deeper into the dermis where they will do the most good (see image 1)[2,3]. Likewise, liposome structures enable us to load a water-soluble active, such as Vitamin C, into the core while carrying oil soluble actives in the membrane structure. To deliver the molecules to targeted areas, the lipid bilayer can fuse with other bilayers such as the cell membrane, thus delivering the contents of the liposome. One of the limitations of liposomes was their load capacity, or the amount of active ingredients that could be carried within the core of the liposome. The International Dermal Institute has uncovered microencapsulation, which helps overcome the limitations of conventional liposomes.

microencapsulation for greater results

In new MultiVitamin Power Serum we are using a new, advanced form of liposome technology that enables a higher amount of actives to be loaded into the liposome sphere. The end result is a higher concentration of stabilized vitamins that penetrate deeper into the skin to the targeted area (see image 2)[4].

In order to optimize the impact of the vitamins on the skin, we have encapsulated derivatives of stabilized vitamins A, C and E in an advanced liposomal delivery system. Additionally, stabilized forms of Ascorbyl Glucoside (Vitamin C) and Linoleic Acid (Vitamin F), along with an active retinoid, complete the complement of vitamins to optimize the impact on skin structure.

2. G Blume, Flexible liposomes for topical applications in cosmetics, In Science and Applications of Skin Delivery Systems, JW Wiechers, ed, Carol Stream, Ill., USA: Allured Publishing (2008) Chapter 15, pp 269–282
3. PL Honeywell-Nguyen and JA Bouwstra, Vesicles as skin delivery vehicles, In Science and Applications of Skin Delivery Systems, JW Wiechers, ed, Carol Stream, Ill., USA: Allured Publishing (2008) Chapter 12, pp 205–226
4. R. Wajda, K. Zirkel, T. Schafer. A Novel Carrier System for Cosmetic Application. SOFW Journal 2006 132:8

image 1: liposomes
Liposomes are microscopic, bubble-like structures. These structures can be loaded with substances, such as actives and vitamins, and used as a vehicle for delivery of active ingredients deep into the dermis for maximum benefit.

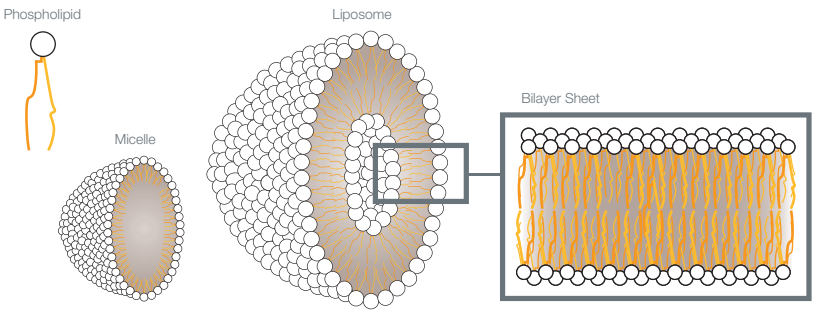
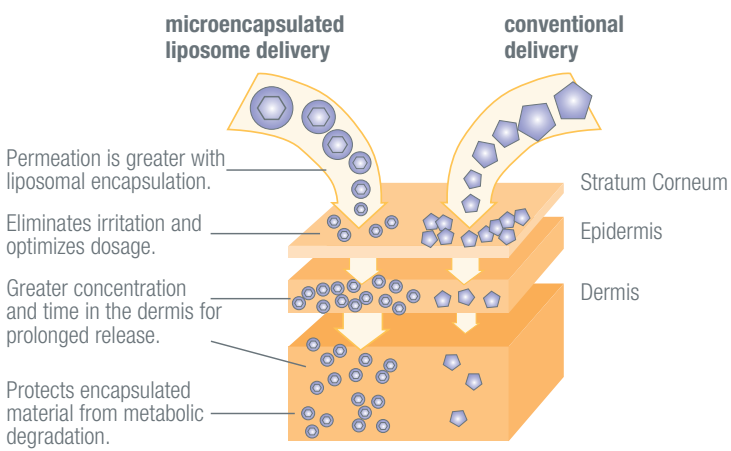


image 2: conventional versus microencapsulated liposome delivery
Microencapsulated liposome delivery of actives is superior to conventional delivery methods. Microencapsulated liposomes not only penetrate better, but also allow a higher concentration to reach the deeper layers of skin. The liposomal structure helps prevent the usual metabolic breakdown of actives by enzymes in the skin.

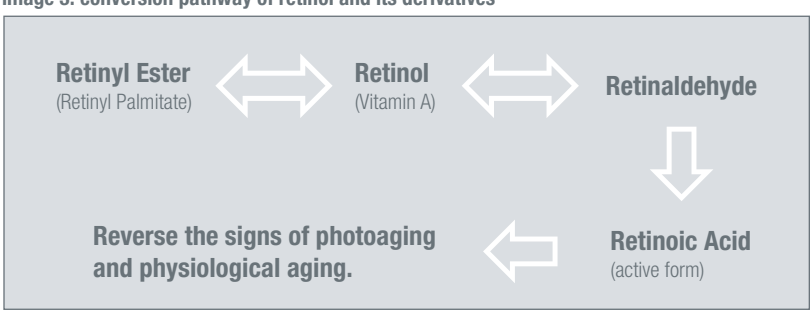


Pure Vitamin A, or Retinol, is often called the normalizing vitamin because it is responsible for normal differentiation of epidermal cells[5,6]. Retinol and its derivatives belong to a group of compounds called retinoids that have been shown to stimulate cell turnover and cell renewal, as well as collagen synthesis. Overall, they improve skin's elasticity and thickness while reversing the signs of photoaging and physiological aging.

While it is common knowledge today that retinoids prevent wrinkles, scientists have shown that Retinol and its derivative, Retinyl Palmitate, do not have much of a direct biological effect on the skin. They require conversion to an active biochemical derivative called Retinoic Acid in order to have an age reversing effect on skin. In fact, Retinoic Acid (a.k.a. Tretinoin) is the active ingredient in Retin A® (Valeant Pharmaceuticals International) and Renova® (Valeant Pharmaceuticals International) – some of the best-known prescription anti-wrinkle creams. Unfortunately, topical Retinoic Acid often causes skin irritation and other side effects, which limit its use, especially on those who have sensitive skin.

Fortunately, skin cells have specialized enzymes capable of converting various Retinol and its derivatives into Retinoic Acid. If sufficient amounts of Retinol, Retinyl Palmitate or Retinaldehyde are added to a culture of skin cells, the amount of Retinoic Acid in the cells increases. The typical conversion pathway looks like this (image 3):

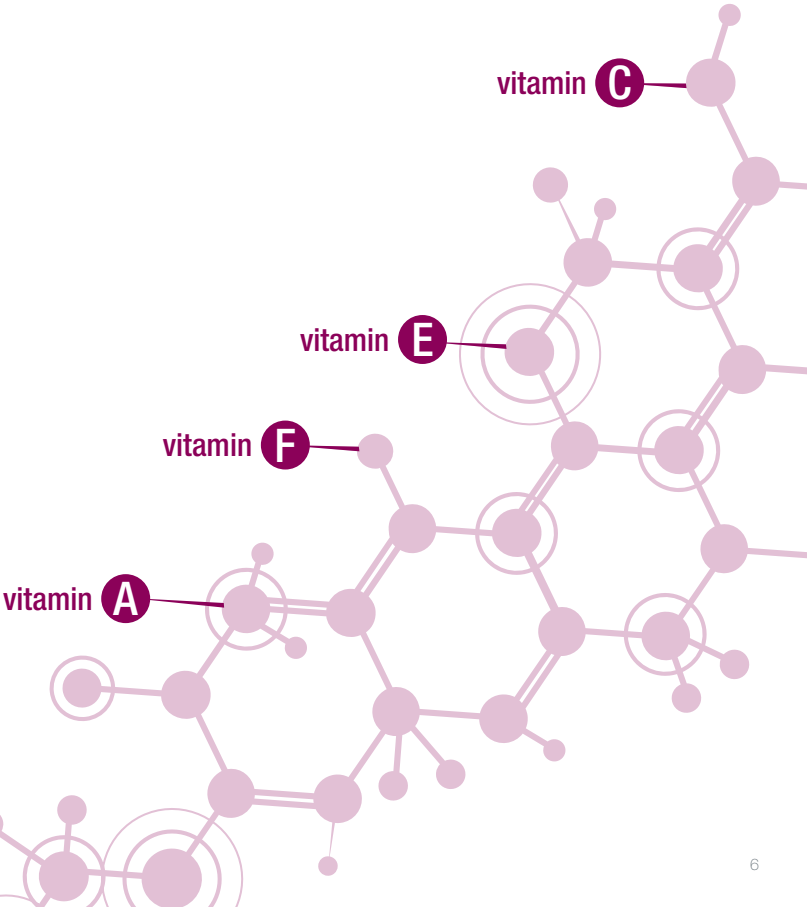
image 3: conversion pathway of retinol and its derivatives



5. D. Djerassi. The Role of Corrective Vitamins A, B5 and C in the New, High Performance Cosmetics. DCI June 1997 page 60-62
6. C. Zouboulis. Retinoids: Is there a New Approach IFSCC Magazine 2000. 3:3 p 9-19z

While it may take two and three steps to convert Retinol and Retinyl Palmitate to Retinoic Acid, they can deliver the well-established skin benefits of Retinoic Acid while producing fewer side effects. Knowing how active and beneficial Vitamin A is for the skin, the challenge is to maximize its exposure and duration in the skin.

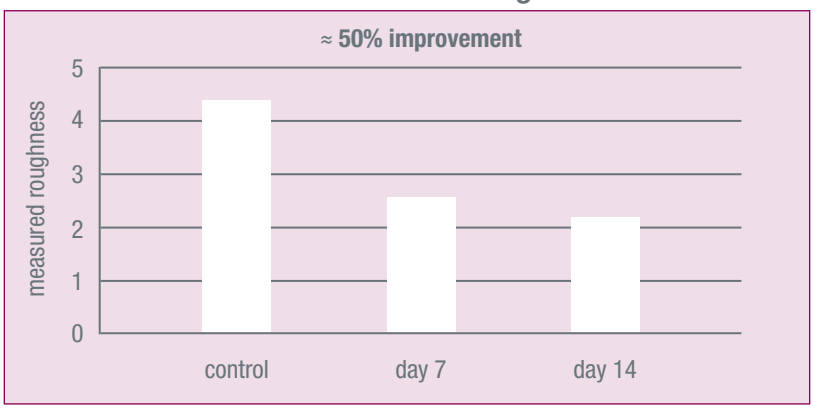
At The International Dermal Institute, we have found by encapsulating Retinyl Palmitate in an advanced form of liposome technology, we can maximize delivery and effectiveness of this Retinoid into the skin.



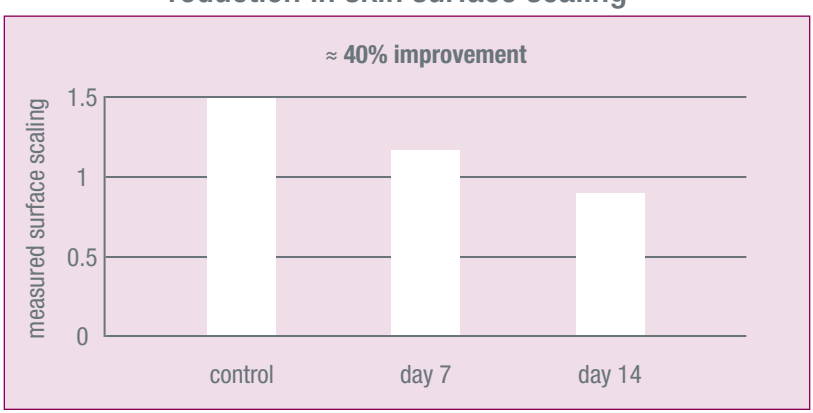
hydroxypinacolone retinoate (HPR)

In addition to Retinol, we have discovered a newly patented molecule, Hydroxypinacolone Retinoate (abbreviated HPR), that is an ester of Retinoic Acid and works similar to Retin-A® but without the irritation that often accompanies this drug. Results of a two-week study[7] showed about a 50% improvement in skin roughness and about a 40% improvement in skin surface scaling (an indicator of dryness) when HPR was applied to the skin.

reduction in surface roughness



reduction in skin surface scaling



Unlike Retinol and other derivatives, which are converted to the biologically-active form of Retinoic Acid, HPR binds directly with Retinoid receptors to initiate a response. In essence, you get a double boost in Retinoid activity; not only does HPR stimulate a response, but encapsulated Retinyl Palmitate conversion to Retinoic Acid also stimulates activity.

[snapshot]

hydroxypinacolone retinoate (HPR)

- gives rise to Retinoic Acid (same active ingredients in Retin-A®).
- works similar to Retin-A® without irritation of Retinoic Acid.
- helps reduce surface roughness of skin and sun-induced aging in skin.
- is not a drug.

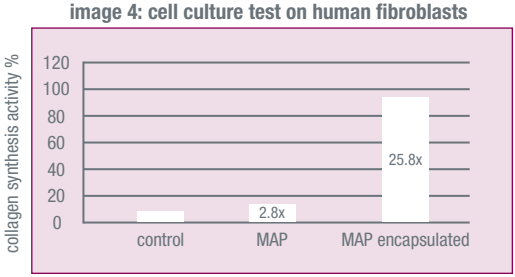
7. Proprietary research provided by Grant Industries, Inc. Elmwood Park, New Jersey. Patent pending US 4885311

Vitamin C

Vitamin C, or Ascorbic Acid, functions not only as an antioxidant, scavenging free radicals (ROS: reactive oxygen species) in the body, but also as a biological co-factor in chemical reactions such as collagen biosynthesis. Topical Vitamin C has been shown to stimulate collagen biosynthesis and provide a photoprotective function against ultraviolet light while helping to prevent immunosuppression, a deleterious phenomenon associated with UV exposure[8a,b,c]. Similarly, Vitamin C has been shown to inhibit melanogenesis and is used to fight hyperpigmentation. The shortfall of Vitamin C is that it is not stable, especially when exposed to air, water or light, and precautions must be taken to ensure stability.

MultiVitamin Power Serum also contains Ascorbyl Glucoside, a stable derivative of Vitamin C that is slowly converted by skin enzymes to Ascorbic Acid. This ingredient, originally developed as a quasi-drug cosmetic product in Japan to treat hyperpigmentation, was later shown to be beneficial for reversing signs of aging and enhancing sunscreen protection[9]. In studies comparing Ascorbyl Glucoside to Ascorbic Acid, stability and efficacy studies showed Ascorbyl Glucoside to be more stable after day 5 compared to Ascorbic Acid, and stimulation to collagen synthesis was significantly higher than Ascorbic Acid. Benefits of Vitamin C are optimized in MultiVitamin Power Serum by combining Ascorbyl Glucoside with encapsulated Magnesium Ascorbyl Phosphate (MAP). Like Ascorbyl Glucoside, MAP is readily hydrolyzed in the skin to release free Ascorbic Acid. Not only is MAP a more stable form of Vitamin C, but we have also encapsulated the MAP in advanced liposomes to optimize its performance. MAP has been shown to increase collagen synthesis by almost 3-fold when compared to the control (no Vitamin C). When encapsulated MAP was used, collagen synthesis increased 25-fold (see image 4)[10].

image 4: cell culture test on human fibroblasts



Vitamin E

MultiVitamin Power Serum also uses advanced encapsulation of Vitamin E, or Tocopherol, to help scavenge free radicals that damage cells and membranes. Vitamin E plays a crucial role in protecting lipid membranes of skin cells and helps relieve dryness and promote smoothness. It also helps reduce inflammation and erythema, edema and skin sensitivity, especially after UV exposure. Vitamin E also soothes and aids in tissue repair and wound healing and helps enhance the performance of UV sunscreens in sun protective formulas.

Linoleic Acid (Vitamin F)

Linoleic Acid, also referred to as Vitamin F, is one of several Essential Fatty Acids (EFAs) that are natural components of membranes surrounding the skin cells. We use Linoleic Acid in MultiVitamin Power Serum to help restore the skin's natural barrier function and reduce trans-epidermal water loss. Topically applied EFAs like Linoleic Acid can be metabolized in the skin and incorporated into structural lipids that help to form the barrier lipid layer.

Palmitoyl Hexapeptide-14

While many of the vitamin complexes used in MultiVitamin Power Serum are designed to optimize cell regeneration and repair, we have chosen to boost this process by including Palmitoyl Hexapeptide-14, a peptide that has been shown to maximize cell regeneration and help reduce wrinkles. Studies comparing this peptide to a Retinoic Acid cream found comparable results (after 12 weeks) in wrinkle reduction[11]. This signaling peptide helps stimulate collagen, promote skin firmness/elasticity, and helps inhibit degradation activity of Matrix Metalloproteinase (MMP) enzymes.

8a. Topical Vitamin C Protects against Sun Damage & Prevents Wrinkles, PCI Journal vol IV. No. 1 p 24
8b. Sheldon Pinnel and Douglas Darr, 1996. Topical Vitamin C Research, Patent from Duke University Medical Center
8c. Topical Uses of Vitamin C in Skin and Aging 14 (3) p 52-59. March 2006
9. Kumano and Yamamoto et al. Stimulatory Action of AA2G on Collagen Synthesis, Biol. Pharm. Bull., 21 (7), 662. 1998
10. Collagen Stimulation Factor MAP Article No. 160905.00.2 Cosmetochem International AG Switzerland
11. Proprietary research provided by Grant Industries, Inc. Elmwood Park, New Jersey


multivitamin power serum
AGE smart®
0.75 Fl. Oz. / 22 mL
dermal
a skin care system researched
multivitamin power serum
AGE smart®
0.75 US Fl. Oz. / 22
multivitamin power serum
AGE smart®

introducing multivitamin power serum

Dermalogica has been focusing on the research and development of serums to aid in the fight against skin aging. This is because serums contain a higher dosage of biologically active substances than cream moisturizers, which means quicker, more effective penetration of actives to address skin care issues.

Our newest is MultiVitamin Power Serum: the next generation of high-potency ingredient technology for dramatic skin recovery. The cocktail of microencapsulated vitamins and peptides is suspended in a Sunflower butter and velvety silicone base to ensure a smooth, wearable feel, long-term stability and performance. In keeping with Dermalogica's philosophy for products that deliver healthy skin, MultiVitamin Power Serum is formulated without S.D. alcohol, synthetic fragrance, artificial colorants, mineral oil or lanolin. The compounded benefits of this newest AGE Smart® product make this a powerful serum for combating the signs of skin aging.

[summary of benefits]

- helps reduce fine lines and wrinkles
- helps stimulate collagen synthesis
- enhances cell turnover and cell renewal
- provides antioxidant protection
- helps control pigmentation

mulitivitamin power serum product details

skin condition

Mature or prematurely-aging.

description

Microencapsulated vitamins A, C and E penetrate deep into skin, helping to decrease fine lines and hyperpigmentation (age spots) while stimulating collagen formation to decrease sun-induced aging in skin. Boost elasticity levels with a skin-strengthening protein peptide that overrides biochemical triggers that lead to skin aging. Formulated without artificial fragrances and colors.

top products to prescribe

MultiVitamin Power Recovery® Masque
MultiVitamin Power Firm
Dynamic Skin Recovery SPF30

key ingredients

- **Retinyl Palmitate:** encapsulated Vitamin A increases cell renewal and turnover. Stimulates new collagen biosynthesis to help reverse signs of aging.
- **Alpha Tocopheryl Acetate:** encapsulated Vitamin E provides antioxidant benefits to the skin and helps reinforce barrier lipid layer.
- **Ascorbyl Glucoside:** a stabilized form of Vitamin C that stimulates collagen synthesis to help fight signs of aging. Helps treat hyperpigmentation and provides a photoprotective function against UV rays.
- **Magnesium Ascorbyl Phosphate:** stabilized and highly active form of MAP that is encapsulated to optimize its effect on the skin. Stimulates collagen synthesis and helps treat hyperpigmentation.
- **Palmitoyl Hexapeptide-14:** a signaling peptide that helps stimulate collagen and promote skin firmness and elasticity and helps inhibit degradation activity of MMP enzymes.
- **Hydroxypinacolone Retinoate:** an ester of Retinoic Acid that works similar to prescriptive Retin-A® but without the irritation. Helps reverse the signs of aging.

at-home application

Smooth over cleansed face and neck morning and night after toning and before moisturizing.

Does MultiVitamin Power Serum replace MultiVitamin Power Concentrate?

Yes, MultiVitamin Power Serum is the next generation beyond MultiVitamin Power Concentrate. MultiVitamin Power Serum uses an advanced technology of microencapsulated vitamins that delivers a higher dosage of ingredients.

Why is it important for my client to use a serum as a part of their daily regimen?

Serums are super-concentrated, potent formulas with a high dose of active ingredients. MultiVitamin Power Serum is specifically engineered to deliver these key vitamins and nutrients deep into the skin to help combat the signs of aging.

Is MultiVitamin Power Serum for all skin conditions?

As part of our AGE Smart® system, MultiVitamin Power Serum has been developed to target mature or prematurely-aging skin, however, the vitamins and nutrients will benefit all skin conditions.

How does MultiVitamin Power Serum differ from Overnight Repair Serum?

MultiVitamin Power Serum is a treatment product that actively fights the signs of aging through microencapsulated vitamins, and works throughout the day and night. Overnight Repair Serum is a nighttime treatment serum that helps restore the lipid bilayer and assists in preserving cell integrity. MultiVitamin Power Serum may be used in combination with Overnight Repair Serum.

Does my client need to use sunscreen after using MultiVitamin Power Serum?

Yes, sunscreen should always be applied as a last step in every daytime skin care regimen.

notes

notes

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