Dr. Emily Parke

Vitamin A 10,000 IU

CLINICAL APPLICATIONS

- Supports Normal Eyesight
- Supports the Aging Eye
- Boosts Immune Activity
- Supports Skin Growth and Repair
- Plays a Role in Red Blood Cell Production

Vitamin A 10,000 IU is delivered as all-*trans*-retinol palmitate for increased efficacy. The 10,000 IU per capsule dosage can be used short-term to boost immune activity and support the aging eye.

Overview

Vitamin A refers to a range of fat-soluble nutrients, some referred to as "preformed," which includes retinol and its derivatives, and those deemed "vitamin A precursors," including beta-carotene and other carotenoids. The final bioactive form of vitamin A is retinoic acid. Research highlights the importance of vitamin A in many physiological processes. Most notably, vitamin A supports normal eyesight, especially night vision. It also plays a vital role in immune response, skin function, and red blood cell production. In children, vitamin A plays an integral role in supporting normal eyesight development. Vitamin A also acts as a nutrigenomic "hormone" that plays an integral role in gene expression. Natural sources of preformed vitamin A include milk, eggs, cheese and liver. The most common type of pro-vitamin A is beta-carotene, a carotenoid that produces dark pigments in plant foods. Food sources for carotenoids include sweet potatoes, carrots, dark green leafy vegetables, broccoli and cantaloupes. Due to the Standard American Diet, few of these food sources are consumed on a regular basis, thus making it important to supplement with high-quality vitamin A.

Deficiency†

According to the World Health Organization, vitamin A deficiency is most often seen in developing nations in Africa and South Asia.[1] The most common cause of deficiency is lack of dietary intake. However, other causes include iron deficiency, pancreatic and liver insufficiency, and bowel problems.

† These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

Eyesight†

The following information highlights the physiological effects of normal vitamin A levels. Retinol is transported to the retina and accumulates in the retinal pigment epithelial cells. It is esterified back to retinyl esters and stored. Retinyl esters are hydrolyzed to a usable form, 11-*cis*-retinal. 11-*cis*-retinal is used for low-light conditions and movement in rod receptors within the retina. It binds to a protein receptor known as opsin in the rod cell to form visual pigment called rhodopsin. Absorption of a photon of light catalyzes this combination to form all-*trans*-retinal which, in turn, leads to a generation of a nerve impulse from the optic nerve to the visual cortex in the brain for interpretation. The all-*trans*-retinal is converted to all-*trans*-retinol and transported back to the retinal pigment epithelial cells completing the visual cycle. The all-*trans*-retinol is further converted back to retinyl esters for storage until it is needed again.[2] It is also important for cell differentiation and function of the cornea.[3] Vitamin A supplementation along with zinc has been shown to support the aging eye.

Immune Health†

Mucosal linings of the digestive tract are active areas of immunity. Dendritic macrophages send extensions through the gap junctions to sample the contents of the lumen, examining for antigens. Once a sample of the antigen is taken, the dendritic cells convey the specific antigen to virgin T4 lymphocytes to convey an antigenic response by the now mature lymphocytes. Retinoic acid is involved in two parts of this process. First, it supports differentiation, migration and antigen-presenting capacity. Secondly, retinoic acid used by antigen-presenting cells supports differentiation of naïve CD4 lymphocytes into induced regulatory T lymphocytes.[4]

Red Blood Cell Development†

Red blood cell production, or erythropoiesis, occurs in the marrow. Research suggests that vitamin A supports immature stem cells as they differentiate to red blood cells. Vitamin A supplementation supports a rise in hemoglobin concentration as well as facilitates iron transportation into hemoglobin. Vitamin A deficiency affects iron movement and can affect hemoglobin synthesis.[5]

Skin Conditions†

Vitamin A has been used to address skin conditions. Skin contains retinoic acid receptors and retinoic X receptors found in the dermis and epidermis. In the skin, retinol is converted into retinoic acid. Retinoic acid modulates gene expression in both the dermis and epidermis. Ultraviolet B can activate transcription factor AP-1, which increases the production of metalloproteinases in the skin and causes degradation of collagen and fibrillin. Pretreatment of all-*trans*-retinoic acid has been shown to inhibit the ultraviolet B activation of AP-1 and MMP genetic expression and activity by 50-80%.[6]

Topical retinoid application has been used as a first line of defense to support healthy skin due to its few side effects. The use of oral retinoid does not induce bacterial resistance and can be used for maintenance.

Topical and supplemental vitamin A are important in wound healing. Vitamin A deficiency has been shown to slow wound healing rates.[7]

Thyroid Function†

Vitamin A is involved with thyroid function in numerous ways. It modulates thyroid gland metabolism, peripheral metabolism of the thyroid hormones and the production of thyroid stimulating hormone. In fact, iodine deficiency is often found in tandem with vitamin A deficiency. Adding vitamin A with iodine supplementation may be used to maintain healthy thyroid function.[8]

Supplement Facts V1

Serving Size 1 Capsule
Servings Per Container 60

	Amount Per Serving	% Daily Value
Vitamin A (from 10,000 IU as Palmitate)	3,000 mcg	333%

Directions

1 capsule per day or as recommended by your health care professional. Vitamin A 10.000 IU is designed for short-term use only.

Does Not Contain

Gluten yeast, artificial colors or flavors

Cautions

This product is a high-dose vitamin A capsule that is not intended for long-term daily use. Please consult your health care practitioner if you are unsure of the appropriate dose. Do not consume this product if you are pregnant or nursing.

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References

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