

NANOFORMULATED



ULTRA VITAMIN®

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Ultra Vitamin is a multi-vitamin formula that combines the Quicksilver Scientific Methyl B Complex with vitamins A, C, D3, E, K1, K2, and the carotenoids lutein, zeaxanthin, and lycopene. Together, these nutrients provide comprehensive support for methylation, antioxidant balance, immune, cardiovascular, and cognitive health.

EDUCATION

BIOAVAILABLE B VITAMINS OPTIMIZE METHYLATION

Methylation is the epigenetic mechanism by which a methyl group (CH3) is added to a DNA molecule, modifying gene expression. Proper methylation is crucial for brain function, cardiovascular health, hormonal balance, and body weight regulation.^{1,2,3,4}

The micronutrients critical for methylation include folate, vitamin B2 (riboflavin 5'-phosphate), vitamin B6 (pyridoxine hydrochloride), methylated vitamin B12, and trimethylglycine (TMG), also known as betaine.^{5,6} Vitamin B2 is a cofactor for methylenetetrahydrofolate reductase (MTHFR), an enzyme that converts precursor molecules into active 5-methyl THF, the form of folate critical for methylation. B6 is a cofactor for serine hydroxymethyltransferase, the enzyme that creates 5-methyl THF precursors. Methylated B12 assists in the conversion of homocysteine to methionine, inhibiting homocysteine-induced inflammation. TMG donates methyl groups to unmethylated molecules, facilitating the entire cycle.⁷

Together, these critical nutrients keep methylation moving along without creating a methyl folate "trap," a scenario in which folate and methylated B12 are unable to join together, resulting in impaired methylation. Unfortunately, research indicates that many people do not consume enough methylation nutrients in their diets, including vitamin B6.⁸ Supplementation with these nutrients may provide valuable "nutritional insurance" for optimal methylation.

B vitamins aren't just essential for methylation; they are also critical cofactors in mitochondrial energy metabolism, neurotransmitter synthesis, and neuronal function.^{9,10}

VITAMIN C SUPPORTS ANTIOXIDANT BALANCE, IMMUNITY, AND EPIGENETIC REGULATION

Vitamin C is a water-soluble vitamin that supports the body's antioxidant defenses and detoxification pathways, enhances immunity, and modulates gene expression.^{11,12,13} Vitamin C levels are stringently regulated by the body, making it difficult to achieve therapeutic blood levels of this nutrient.¹⁴ Sodium ascorbate, a mineral salt of ascorbic acid is often used for vitamin C supplementation as it is better tolerated than ascorbic acid. Utilizing liposomal delivery for vitamin C has been shown to not only increase bioavailability, but further reduces potential for adverse gastrointestinal effects.¹⁵



Supplement Facts

Serving Size: 5 mL (1 tsp.)	Amount Per Serving	% Daily Value
Vitamin A (as Retinol, Beta Carotene)	2100mcg RAE	233%
Vitamin C (as Sodium Ascorbate)	100mg	111%
Vitamin D (as Cholecalciferol) (D3)	62.5mcg (2500 IU)	313%
Vitamin E (as Natural Mixed Tocopherols, Tocofersolan)	23mg	153%
Vitamin K (as K2 (MK7), K1 (Phytadione))	90mcg	75%
Thiamin (Vitamin B1) (Thiamine HCl)	12mg	1000%
Riboflavin (as Riboflavin-5-Phosphate)	3.6mg	277%
Niacin (as Niacin, Niacinamide)	10mg	63%
Vitamin B6 (as Pyridoxine HCl)	6.7mg	394%
Folate (as Calcium Folinate)	850mcg DFE	213%
Vitamin B12 (as Methylcobalamin)	500mcg	20833%
Biotin	500mcg	1667%
Pantothenic acid (as Calcium d-Pantothenate)	22.5mg	450%
Sodium (as Sodium Ascorbate)	10mg	<1%
Trimethylglycine (as betaine)	20mg	**
Proprietary Blend	363mg	**
Highly purified phospholipids, liquid Milk Thistle seed extract, Tocotrienols (from annatto), Lycopene, Zeaxanthin, Lutein		

**Daily Value not established

Other Ingredients: Water, glycerin, ethanol, tocofersolan, natural flavorings, natural citrus oils, natural mixed tocopherols, EDTA (as preservative)

FAT-SOLUBLE SYNERGY

Vitamin K

Vitamin K2 plays critical roles in bone metabolism, cardiovascular health, and dental health.^{16,17} It carboxylates osteocalcin, a protein found in bone and dentin. Via carboxylation-independent mechanisms, vitamin K2 attenuates chronic inflammatory disease processes, including cardiovascular disease and osteoarthritis, by inhibiting the generation of damaging reactive oxygen species (ROS). In vitro, vitamin K2 has also been found to inhibit inflammation caused by lipopolysaccharide (LPS), a bacterial byproduct that is increased in states of intestinal permeability.¹⁷

Vitamin E

The vitamin E family includes two groups of compounds, tocopherols and tocotrienols. While tocopherols are the most commonly used form of vitamin E in multivitamins, tocotrienols have superior antioxidant properties and demonstrate beneficial effects on lipid homeostasis and brain health that are not observed with tocopherol forms of vitamin E.^{18,19}

Vitamin D

Vitamin D has long been appreciated for its critical role in regulating bone formation and integrity.²⁰ However, research continues to reveal its fascinating pleiotropic effects on human health. Vitamin D3 supports cardiovascular health, protects against periodontitis and dental caries, promotes a healthy gut microbiota, and supports cognitive health.^{21,22,23,24} Nearly 40 percent of Americans are deficient in vitamin D.²⁵ However, this figure vastly underestimates the true prevalence of vitamin D deficiency because the cutoff point is set quite low, with deficiency designated as a vitamin D level of 20 ng/mL or lower.²⁶

Vitamin A

The vitamin A family is comprised of preformed vitamin A, which includes retinol and retinoic acid, and vitamin A precursors called carotenoids. The conversion of carotenoids to active vitamin A varies widely from one person to another, making dietary consumption and supplementation with preformed vitamin A a smart decision.²⁷

Vitamin A is crucial for the maintenance of resilient gut health and immunity.^{28,29} It also supports healthy vision and skin by regulating photoreceptor function and epithelial cell turnover, respectively.^{30,31}

The vitamin D receptor (VDR) binds to the retinoid X receptor (RXR), activated by vitamin A, to form a transcription factor that regulates gene expression. Vitamins D and A thus work together to modulate gene expression.³² Vitamins D and K, in turn, have synergistic effects on bone and cardiovascular health.³³ The fat-soluble vitamins, therefore, work synergistically to support whole-body health.*

CAROTENOIDS PROVIDE ANTIOXIDANT SUPPORT FOR THE BODY

Carotenoids act as antioxidants by activating Nrf2, a cellular regulator of antioxidant production.^{34,35,36} Lutein and zeaxanthin cross the blood-retina barrier, protecting against ocular diseases such as age-related macular degeneration (AMD) and cataracts.³⁷ These carotenoids may also play a role in optimal cognitive function. Lycopene may support cardiovascular health by inhibiting the proliferation of rogue cells implicated in cancer development.³⁸

Quicksilver Delivery Systems® improve upon liposomal and emulsification technology with smaller, more stable particles made from the highest grade ingredients available. In addition to exceptional absorption rates, these tiny liposomal and nanoemulsified particles enhance the lymphatic circulation of nutrients and intracellular delivery, after ingestion.