

NANOEMULSION



D3K2

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Quicksilver Scientific **D3K2** is a highly-absorbable nanoemulsified blend of two critical fat-soluble vitamins, vitamins D3 and K2. One pump of our formula delivers 2500 IU's of vitamin D as cholecalciferol D3 and 90 mcg of vitamin K as menaquinone-7 (K2).

EDUCATION

Vitamin D deficiency is defined as levels of vitamin D (serum 25-hydroxyvitamin D) below 20 ng/mL. Nearly 40 percent of adults in the U.S fit this definition¹; however, this number likely underestimates the true prevalence of vitamin D deficiency since optimal 25-OH vitamin D levels may be quite higher, closer to 50 ng/mL.² Vitamin D deficiency adversely affects bone health, immune function, and cardiovascular disease, among other health concerns. Most people do not obtain sufficient sun exposure to synthesize vitamin D cutaneously, and food sources of this nutrient are limited, necessitating supplementation. Supplemental vitamin D3 is more effective than vitamin D2 (calciferol) at raising the body's serum 25-OH vitamin D concentration.³ Vitamin D3 works in concert with vitamin K2, which comes in several forms, including menaquinone-7, or MK-7. Vitamin K2 works synergistically with vitamin D to ensure that calcium is deposited where it belongs, in bone tissue, and kept out of places it doesn't belong, such as arteries, kidneys, and joint cartilage.

SUPPORTS BONE HEALTH

Vitamin D increases our absorption of critical vitamins and minerals, including calcium and magnesium. Adequate vitamin D levels are associated with increased bone mineral density and a reduced risk of bone fracture, especially as we age.⁴

SUPPORTS HEALTHY, BALANCED IMMUNE FUNCTION

Vitamin D regulates the innate immune system, the body's front line of defense against bacterial and viral pathogens.⁵ Vitamin D shifts the immune system toward tolerogenic profile, reducing the risk of autoimmune processes.⁶ Clear connections have been established between vitamin D deficiency and autoimmune diseases, including multiple sclerosis, Crohn's disease, and ulcerative colitis.^{7,8} Vitamin D deficiency is also associated with an increased risk of dying from cancers, including breast, uterine, prostate and colon cancers.^{9,10} Low vitamin D increases the incidence of viral respiratory infections in those with asthma^{11,12} while supplementation decreases the risk of respiratory tract infections like the common cold.¹³ Lower vitamin D levels are even associated with larger tonsil size and recurrent tonsillopharyngitis in children,¹⁴ as well as increased incidence of upper respiratory infection (URTI) and community acquired pneumonia in adults.^{15,16}



Supplement Facts

Serving Size: 0.5 mL (1 Pump)
Servings Per Container: 100

	Amount Per Serving	% Daily Value [†]
Vitamin D (as cholecalciferol [D3])	62.5mcg (2500 IU)	313%
Menaquinone MK-7 (Vitamin K2)	90mcg	**

[†]Percent Daily Values are based on a 2,000 calorie diet.
^{**}Daily Value Not Established

Other Ingredients: Water, glycerin, ethanol, tocopherolan, highly purified phospholipids, natural citrus oils, natural mixed tocopherols

SUPPORTS MOOD AND PROTECTS AGAINST DEPRESSION

Vitamin D deficiency has been found in many studies to be associated with depression.¹⁷ A 2013 study found more than twice the risk of depression in those with low vitamin D levels compared to the general population.¹⁸ Supplementation with vitamin D has been found beneficial for those suffering from clinical depression.¹⁹ In people with diabetes, vitamin D supplementation helps reduce both anxiety and depression.²⁹ Supplementation of vitamin D was associated with an improvement in vitamin D levels as well as depression scale scores in patients with seasonal affective disorder.²¹

SUPPORTS THE BRAIN AND NEUROCOGNITION

Vitamin D's role in nervous system development and function is well-known; it also plays a therapeutic role in neurological pathologies and cognitive function. Low levels of circulating 25-hydroxyvitamin D (25(OH)D) are linked to cognitive impairment or dementia in aging populations.²² Repletion of vitamin D may protect against cognitive decline and dementia.²³ Vitamin D improves neurocognition²⁴ and has been shown to exert positive effects on the symptoms of Alzheimer's disease and mild cognitive impairment.^{25,26,27}

SUPPORTS HEART AND LUNG FUNCTION

Vitamin D deficiency has been tied to vascular dysfunction; arterial stiffening; hypertension, and high cholesterol—and an overall higher risk of cardiovascular problems and death.²⁸ Coronary artery disease, heart attack, heart failure, atherosclerosis and hypertension are all correlated with vitamin D deficiency.^{29,30} Vitamin D helps preserve the function of the endothelium in blood vessels.³¹ Asthma and COPD improve with supplementation of vitamin D.³² Low vitamin D levels are associated with lower baseline lung function and increased COPD flareups.³³ Respiratory function improves with vitamin D supplementation.³⁴

VITAMIN D WORKS OPTIMALLY IN CONJUNCTION WITH VITAMIN K

Vitamin K2 is important for more than clotting; it also protects bones and works with vitamin D. Vitamin K and D are interdependent, as vitamin K plays a role in directing calcium deposition to the bone matrix, and insufficiency may be associated with soft tissue calcification and lower bone mineral density.³⁵ Vitamin K deficiency is common in chronic gastrointestinal, liver or gallbladder disease, while factors such as antibiotic use and low dietary intake may also contribute to deficiency.³⁶ Menaquinone-7, or MK-7, is a highly bioactive form of vitamin K2 and has been shown to have a longer half-life than vitamin K1 resulting in more stable serum levels. It has been shown to reduce fractures in clinical trials.³⁷ Menaquinone also has been shown to improve bone density.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 increase diffusion across mucus membranes, enhance lymphatic circulation of nutrients and support cellular delivery.

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References available at quicksilverscientific.com/d3k2references

WARNING: NOT FOR USE BY INDIVIDUALS UNDER THE AGE OF 18 YEARS. DO NOT USE IF PREGNANT, BREAST-FEEDING, OR PLANNING TO BECOME PREGNANT. KEEP OUT OF REACH OF CHILDREN. Consult a healthcare professional before use if you have any medical condition or are taking any other supplements or medications. Do not exceed recommended dosage. See www.quicksilverscientific.com for additional safety information.

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