

Name of the product: **EMKAY-7**

Emkay-7[®]
Vitamin K2

SUPPLEMENT FACTS

Serving Size: 1-2 Softgel(s)
Servings per Container: 30 Softgels

MK-7 Vitamin K2 as Menaquinone-7 USP (from Natto Extract): 100 mcg

HEART HEALTH

Vitamin K-2 may lower the risk of cardiovascular damage and improve overall heart health. Vitamin K2 serves an important role in cardiovascular health through regulation of calcium homeostasis. Its effects on the cardiovascular system are mediated through activation of the anti-calcific protein known as matrix Gla protein. According to a 2015 review article Trusted Source, this protein prevents calcium deposits from forming in the walls of blood vessels. The findings suggesting that a diet high in natural vitamin K2 may decrease the risk of coronary heart disease. K2 has even been shown to reverse existing calcification and restore flexibility and elasticity to vessels. Furthermore, vitamin K2, in the form of MK-7, has been proven in numerous trials with healthy and diseased patient cohorts to have a long-term protective effect on the development of calcification.

CORONARY HEART DISEASE

Vascular calcification is one of the risk factors for coronary heart disease because it reduces aortic and arterial elasticity. Matrix Gla-protein (MGP) is a vitamin K-dependent protein that may play a role in the prevention of vascular calcification. Although the full biological function of MGP is unclear, a hypothesis based on animal data suggests that inadequate vitamin K status leads to undercarboxylated MGP, which could increase vascular calcification and the risk of coronary heart disease. Increased vitamin K2 intake may reduce arterial stiffness, slow progression of vascular and valvular calcification, lower the incidence of diabetes and coronary artery disease, and decrease cardiovascular mortality.

BONE HEALTH

Vitamin K2 plays a central role in the metabolism of calcium, the main mineral found in your bones and teeth. Vitamin K2 activates the calcium-binding actions of two proteins, matrix GLA protein and osteocalcin, which help to build and maintain bones. A meta-analysis of 16 studies in 6425 postmenopausal women found that those taking vitamin K2 supplements had a positive effect on bone mineralization and increased bone strength. Vitamin K-2 enhances the effects of standard medication for osteoporosis in adult females aged 65 or older. The mutations to vitamin K-dependent enzymes, resulting in birth defects that affect development of bone and cartilage. Within bone marrow mesenchymal stem cells, Vitamin K2 treatment supports osteogenic differentiation. Osteocalcin expression in bone is related to proper function, although the precise mechanism is under ongoing research.

OSTEOPOROSIS

Vitamin K is a cofactor for the gamma-carboxylation of many proteins, including osteocalcin, one of the main proteins in bone. Some research indicates that high serum levels of undercarboxylated osteocalcin are associated with lower bone mineral density. Some, but not all, studies also link higher vitamin K intakes with higher bone mineral density and/or lower hip fracture.

AIDS IN BLOOD CLOTTING

One of the main functions of vitamin K is to allow your blood to clot. In fact, the "K" in vitamin K is in reference to the German word "koagulation," which translates to "coagulation" or the ability to clot (or thicken) blood. Vitamin K is the blood-clotting vitamin and plays a crucial role in blood coagulation, which is the process by which the body forms clots to stop bleeding. The mechanism of action of vitamin K is discussed in terms of a new carbanion model that mimics the proton abstraction from the gamma position of protein-bound glutamate. This is the essential step leading to carboxylation and activation of the blood-clotting proteins. Vitamin K helps to make various proteins that are needed for blood clotting and the building of bones. Prothrombin is a Vitamin K-dependent protein directly involved with blood clotting. Osteocalcin is another protein that requires vitamin K to produce healthy bone tissue. Vitamin K acts as a cofactor for a group of proteins known as the vitamin K-dependent clotting factors (II, VII, IX, and X), which are involved in the activation of blood-clotting proteins.

SKIN HEALTH

Collagen and elastin are two of the components of skin that give it firmness and elasticity. Skin cells appear to release matrix-GLA protein to prevent calcification of elastin in the skin. It found that elastin is calcified due to the lack of Vitamin K2 activated matrix-GLA protein. Vitamin K2 could help maintain youthful skin activating Matrix-GLA and in turn preventing calcification of elastin. As we age, it is common to have skin conditions like dark spots, stretch marks, scars and varicose veins. Vitamin K2 could help combat such ailments by assisting with cell repair.

ANXIETY AND DEPRESSION

High blood glucose levels may increase a person's risk of developing depression, anxiety, and cognitive impairment. Treatment with vitamin K2 had normalized blood glucose and reduced symptoms of anxiety and depression. Vitamin K2 improved functional performance, reduced social anxiety, depressive-like behavior, and enhanced memory performance with concomitant preservation of hippocampal and cerebral cortex tyrosine hydroxylase expression. Supplemental vitamin K2 studies show a reduction in inflammatory markers in the brain.

CANCER

Vitamin K2 has antioxidant properties that may help protect against cancer. It is a fat-soluble vitamin, in addition to promoting blood coagulation, it has antitumor effects. Vitamin K2 has been shown to induce cancer cell apoptosis and suppress cancer growth and differentiation in various types of cancer cells. Vitamin K2-mediated apoptosis proceeds much more slowly than the apoptosis induced by conventional anticancer agents. A 2019 study suggests that K-2 significantly reduces the activity of hypoxia-inducible factor 1-alpha (HIF-1A) in hepatocellular carcinoma cells. HIF-1A is an important target for cancer drug therapy. In short, Vitamin K2 may act in several pathways including protein kinase A, protein kinase C, nuclear factor kappa B and steroid and xenobiotic receptor.

IMMUNE HEALTH

In recent years, ex vivo studies have demonstrated a previously unknown immunomodulatory role for vitamin K2. First, it was demonstrated that MK-7 modulated expression of TNF- α , IL-1 α and IL-1 β . Furthering this finding, K2 decreases proliferation of T-cells from healthy individuals. This has been further substantiated with T-cells from a larger number of children with pediatric atopic dermatitis and healthy controls, as well as a separate study with patients on dialysis. Both these studies demonstrated that K2 decreased the number of activated T-cells, as well as proliferation. Thus, accumulated evidence is showing a novel role of K2 as an immunosuppressive agent. This needs to be further elaborated; until then, a novel physiological mechanism by which vitamin K2 can aid immunomodulation can be hypothesized, although it requires further study.

PROMOTES HAIR GROWTH

Vitamin K contributes to hair health and growth in two key ways. Firstly, vitamin K reduces scalp calcification which is when calcium builds on the scalp and prevents hair growth. Scalp calcification is essentially when your scalp absorbs more calcium than is standard. As a result, blood vessels can become blocked, this then impairs oxygen from reaching the hair follicle, and it's the circulation of oxygen to these follicles that promotes and supports hair growth. By reducing the risk of scalp calcification, vitamin K may contribute to hair growth, as it supports the normal transfer of oxygen to the hair follicles. Vitamin K2 helps us regulate our calcium intake and maintain a healthy scalp and secondly, it supports the regeneration and growth of hair strands, which can not only help hair grow faster and thus thicker, but also naturally reverse balding.

INCREASE EXERCISE PERFORMANCE

The Vitamin K2 allows skeletal muscle to use energy during exercise, increasing the efficiency of the work out and potential performance. Vitamin K2 supplementation for 4 weeks increased maximal cardiac output by 12% in aerobically trained male and female athletes, and also improved heart rate and lactate levels. Intracellular calcium regulation mechanism might be the theoretical rationale for vitamin K2 suppressing muscle cramps. Vitamin K2 can have a great impact on bodybuilders who use steroids periodically throughout their training. The researchers were also able to determine that the energy production was restored because the vitamin K2 had improved electron transport in the mitochondria.

DIABETIC HEALTH

Vitamin K2 supplementation improves impaired glycemic homeostasis and insulin sensitivity for type 2 diabetes. Vitamin K is a fat-soluble vitamin that plays an important role in the regulation of the glycemic status and may improve glucose metabolism, improve insulin sensitivity, and lower body fat, all of which protect against type II diabetes and metabolic syndrome. Increasing vitamin K can also benefit those who already have diabetes, by keeping damaging high blood sugar under control. The mechanism by which this K2 may act in doing so is beginning to be unraveled. Vitamin K2 activates osteocalcin, which has been shown in vitro to promote proliferation of pancreatic beta cells as well as increasing insulin production and expression of CyclinD1.

DENTAL HEALTH

Researchers have speculated that vitamin K2 may affect dental health. A 2023 review of 4965 elderly individuals concluded that regular vitamin K supplementation coupled with moderate fiber intake was effective at helping to prevent tooth loss from periodontal disease. One of the main regulating proteins in dental health is osteocalcin, the same protein that is critical to bone metabolism and is activated by vitamin K2. Osteocalcin triggers a mechanism that stimulates the growth of new bone and new dentin, which is the calcified tissue underneath the enamel of your teeth. Taking a vitamin K supplement may also help stop bleeding gums. Because it enables your blood to coagulate, vitamin K is an essential component of your body. A deficiency can make it easier for blood to spill out of the body, and one study revealed that it may also lead to bleeding gums.

DOSAGE:

One to two softgel(s) daily or as directed by a qualified healthcare practitioner.

PRECAUTIONS:

Store away from heat, light and moisture at room temperature. Refrigeration is recommended in hot climates. Keep out of reach of children. Sealed for your protection. Do not use if seal is broken. Shake jar before opening.

تعمیرات: ایک سے دو سافٹ جیلز روزانہ یا مستند معالج کی ہدایت کے مطابق۔

احتیاط: دھوپ، نمی اور گرمی سے دور رکھیں اور کمرے کے درجہ حرارت پر محفوظ کریں۔ گرم موسم میں ریفریجریٹر میں محفوظ کرنا تجویز کیا جاتا ہے۔ بچوں کی تکلیف سے دور رکھیں۔ آپ کی حفاظت کے پیش نظر اس جار کو سیل کیا گیا ہے۔ لہذا اگر سیل ٹوٹی ہوئی ہو تو استعمال نہ کریں۔ جار کو کھولنے سے پہلے ہلائیں۔



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SRO 412 (1) / 2014 Enlisted Product