

Seebio Vitamin K2

MK-4 / MK-7

The Special Effects of Vitamin K2

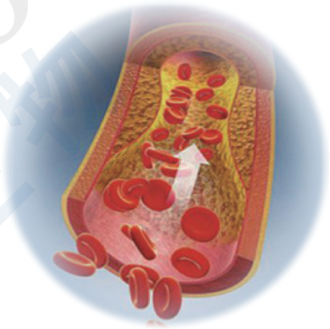
◆ Crucial to bone health

Vitamin K2 is essential for the carboxylation of glutamate residues in certain proteins, to give carboxyglutamate. This modification allows the protein to bind calcium, an essential event in the blood clotting cascade. VK2 helps to form osteocalcin, a specific protein which is adept in calcium binding. VK2 can increase bone density to prevent fracture.



◆ Curing haemorrhage caused by VK2 deficiency

Vitamin K2 plays an important role in promoting thrombin generation, accelerating blood cycle and managing clotting time. It is a common coagulant used in surgeries and first aids.



◆ Prevent hepatocirrhosis to become liver cancer

Scientists in Osaka City University in Japan did a research on vitamin k2 preventing the development of hepatocirrhosis and the result shows that vitamin k2 can prevent hepatocirrhosis to develop to liver cancer.

◆ Positively influence the cardiovascular system

Healthy arterial tissues have shown to contain 100 times more Vitamin K2 than unhealthy arteries, and the amount of calcium in the arteries is a risk factor for cardiovascular health. The Rotterdam Study (2004) shows that high dietary intake of Vitamin K2 – but not vitamin K1 – has a strong protective effect on cardiovascular health.

◆ Anti- inflammation

Further research has demonstrated vitamin K2's anti-inflammatory action. As the body ages, levels of the inflammation-promoting cytokine interleukin-6 (IL-6) increase. Once IL-6 becomes out of balance with the other cytokines, inflammation accelerates. It has been observed that people with arthritis, Alzheimer's disease, and atherosclerosis have higher levels of IL-6.

◆ Prevent Diabetes

The second highest concentration of vitamin K2 in the body is in the pancreas, which plays a major role in blood sugar and insulin regulation. In animal studies, Japanese researchers found that when they induced vitamin K2 deficiency, the test animals developed Type II diabetes.

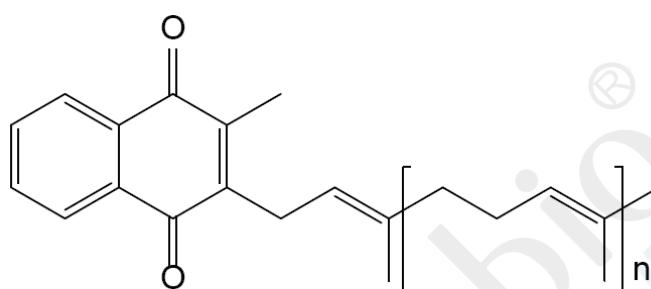
◆ Antioxidants

Research has indicated that vitamin K2 has antioxidant activity comparable to vitamin E and CoQ10. Animal studies have demonstrated complete hepatic (liver) protection from induced oxidative stress using vitamin K, and was found to be 80% as effective as vitamin E in preventing oxidation.

◆ Prevent Alzheimer

About 25% of the population have a genetic predisposition for developing Alzheimer's disease - they carry the E4 form of the lipoprotein apoE. Interestingly, people who carry this gene have been found to have low levels of vitamin K2.

Vitamin K2 is not a single compound – it consists of a group of essential fat-soluble vitamins. They differ in the saturation and number of attached carbon-hydrogen atoms in the sidechain, called “isoprenoid residues.” These differences are especially pronounced in the vitamin K2 group, which includes menaquinones with different lengths of the side chain. The length is marked in the name of the particular menaquinone chain (ex: MK-4 means 4 isoprenoid residues are attached to the main ring), and the length influences their abilities to reach different tissues within the body.

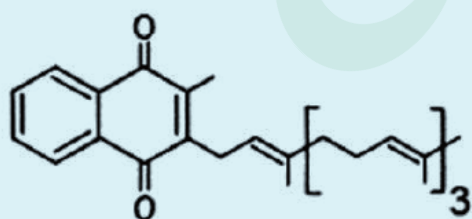


Vitamin K2; Menaquinone n=2~6

Abbreviation	Product name	Isoprenoid residues	CAS No.	Molecular formula	Molecular weight
MK-4	Vitamin K2(20)	4	863-61-6	C ₃₁ H ₄₀ O ₂	444.65
MK-7	Vitamin K2(35)	7	27670-94-6	C ₄₆ H ₆₄ O ₂	649.0

Vitamin K2(20) (MK-4) Menaquinone-4

Product Code: 185834



MK-4

Alias:

Vitamin K2; Menaquinone; Menatetrenone; Menatetren; Menatetrenona; Menatetrenonum; Menaquinone-4; MK-4; 2-Methyl-3-[(2'E,6'E,10'E)-3',7',11',15'-tetramethylhexadeca-2',6',10',14'-tetraen-1'-yl]-1,4-naphthalenedione

CAS No.: [863-61-6]

Molecular Formula: C₃₁H₄₀O₂

Molecular Weight: 444.65

Period of validity: 2 Years

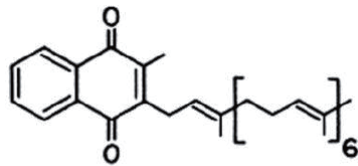
Grade: JP 14/Food Grade

Dangerous grade: Non-hazardous

Excipient	Purity
DCP (Pharm.excipient: CaHPO ₄)	1.3%, 2.0%
CD (Pharm.excipient: Cyclodextrin)	1.3%, 2.0%
MCC (Pharm.excipient: Microcrystalline Cellulose)	1.3%, 2.0%
Oil (Sunflower seed/Soybean/Olive/MCT oil)	1.3%, 2.0%
Powder	98.0%

Vitamin K2(35) (MK-7) Menaquinone-7

Product Code: 185837



MK-7

Alias:

Vitamin K2; Menaquinone; Menaquinone-7; MK-7; (All-E)-2-(3,7,11,15,19,23,27-Heptamethyl-2,6,10,14,18,22,26-octacosaeptaenyl)-3-methyl-1,4-naphthalenedione

CAS No.: [27670-94-6]

Molecular Formula: C₄₆H₆₄O₂

Molecular Weight: 649.0

Period of validity: 2 Years

Grade: Food Grade

Dangerous grade: Non-hazardous

Excipient	Purity
DCP (Pharm.excipient: CaHPO ₄)	0.2%, 0.25%, 0.5%, 1.0%, 1.3%, 1.5%
CD (Pharm.excipient: Cyclodextrin)	0.2%, 0.25%, 0.5%, 1.0%, 1.3%, 1.5%
MCC (Pharm.excipient: Microcrystalline Cellulose)	0.2%, 0.25%, 0.5%, 1.0%, 1.3%, 1.5%
Oil (Sunflower seed/Soybean/Olive/MCT oil)	0.2% ~ 5.0%
Powder	98.0%

Formulations

- Vitamin K2(20) (MK-4) Menaquinone-4 Capsules and Tablets
- Vitamin K2(35) (MK-7) Menaquinone-7 Capsules and Tablets



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