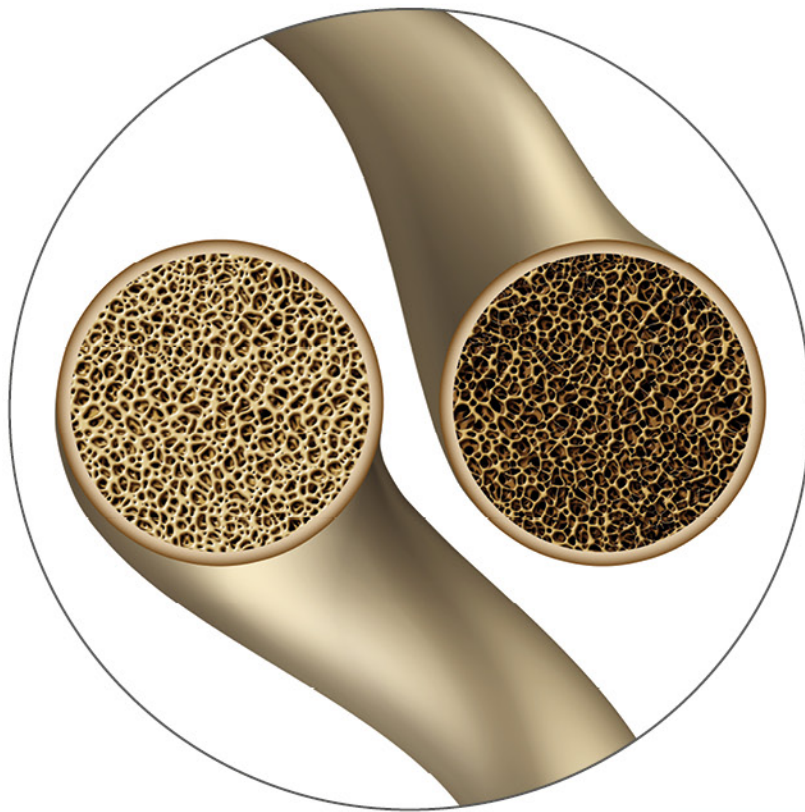


# VITAMIN K2

FORMULA  
for Healthy Bones

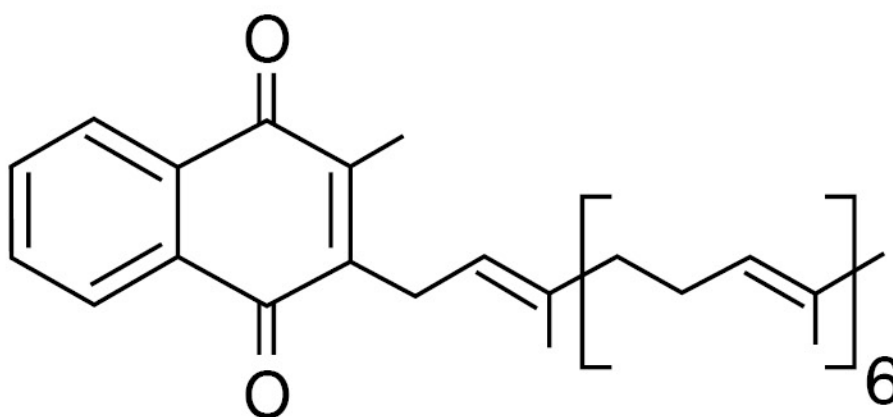


*Dietary Supplement*

**120** tablets



Bones are a living tissue, just like the kidneys, the heart and other organs of the body. They are made up of a hard outer layer and inner spongy layer tissue, which continuously remodels and redevelops.



MK-7

Throughout the duration of our life, bones continuously go through a process of deconstruction and reconstruction so as to adjust to new mechanical conditions that are created over time. This continuous reconstruction is two-fold i) aims at the restoration and preservation of the anatomical and functional integrity of the bones, repairing any damage that has occurred – damage which is very frequent and ii) aims towards the maintenance of maximum bone density. Therefore, in a period of 9 to 10 years, a complete replacement of all bone tissue may have taken place. This process of restoration of deteriorated bone mass with new bone is referred to as "**reconstruction**".

The bones are never found in metabolic inertia. A condition of bad bone metabolism is a condition characterized by the loss of bone density and leads to weaker bones and bones that are more prone to fractures. This metabolic process is largely regulated

by osteoblasts (cells that synthesize bone tissue) and osteoclasts (cells that breakdown bone tissue).

Osteoblasts produce a protein called Osteocalcin. This is a **Vitamin K2** - dependent protein which binds the calcium to the bone matrix and builds healthy bones.

Osteocalcin though also needs adequate amounts of **vitamin K2** to be enabled. When the analogy of the bone constructing process is greater than the bone deconstruction process then the maintenance of healthy bones is kept under control. However, when this delicate process is disturbed, bones become weak and brittle. The strong connection between **vitamin K2** deficiency and impaired bone health has been proven both in laboratory and clinical studies. It has been found out that a **vitamin K2** deficiency leads to a decreased level of activated osteocalcin which in turn increases the risk of brittle bones.

**K2** is a cofactor for an enzyme called  $\gamma$  - glutamyl carboxylase. In cases where there is an insufficient supply of K2, the enzyme is not triggered for the biochemical reaction of carboxylation. Carboxylation triggers a number of proteins that are essential for healthy bones. If **Vitamin K2** doesn't activate the enzyme that activates the proteins that regulate where calcium will be deposited, the proteins don't function properly. This results in calcium being deposited in the arteries, kidneys, heart, etc. and not in the bones.

These proteins are called gamma-carboxyglutamic acid containing proteins or Gla-proteins. One of these is osteocalcin whose purpose is to attract the calcium ions that are circulated and then deposit them in the bones as hydroxyapatite minerals. If a small amount of osteocalcin is activated, then only a very little amount of the available

calcium in circulation will result in it being deposited in the bones.

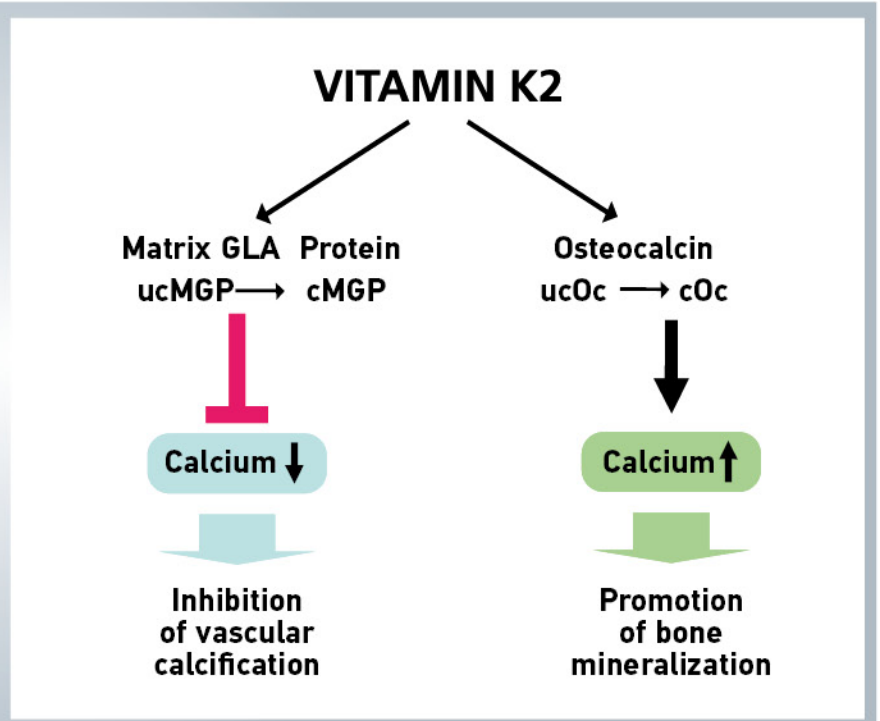
**K2** is also responsible for the activation of another basic protein called matrix gla - protein which prevents the deposition of calcium in soft tissues. When K2 is very low, this protein remains inactive. Therefore, the calcium that we consume and need for it to be deposited in the bones oppositely ends up being deposited in unwanted places in the body. Subsequently, it becomes calcified and isn't recycled. Bones store calcium and release it for the body's needs, contain bone marrow tissue and along with the liver and spleen is the main organ for red and white cell formation.

Calcium, hematopoietic tissue and energy are all stored in bone tissue hence making the bones essential organs for the survival and functionality of individual.

### VITAMIN K2 FORMULA

is a dietary supplement containing **Vitamin K2** and **Vitamin C**.

**Vitamin K2** contributes to the maintenance of healthy bones, whereas **Vitamin C** contributes to the normal formation of collagen for the normal function of the blood vessels, the bones and the cartilages.



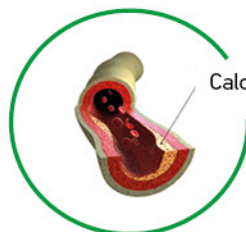


## Without Vitamin K2

- Calcium can't bind to mineralized bone matrix and therefore it is deposited in the walls of the arteries.



Healthy, free arterial flow



Decreased blood flow due to calcium deposits

## With Vitamin K2

- Clinical researches have proven that it can help increase bone strength and density.



Healthy, dense bone tissue



Weak, porous bone tissue

COMPOSITION IN ACTIVE INGREDIENTS	Per daily dose (1 capsule)	% RDA
Vitamin K2 (as Menaquinone-7)	200 mcg	266,7%
Vitamin C (as ascorbic acid)	10 mg	16,7%

## DOSAGE

- Take 1 capsule daily.

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**PRECAUTIONS** • Do not exceed the recommended daily dose. • Dietary supplements should not be used as a substitute of a balanced diet. • Keep away from young children. • This product is not intended for the prevention, cure or treatment of a human disease. • Consult with your doctor if you are pregnant, breast-feeding, taking pharmaceutical treatment or having health problems.

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