



# vitaMK7<sup>®</sup>

natural vitamin K2

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**The optimal vitamin K2  
from natural  
biotransformation**



**Gnosis**  
by **Lesaffre**

**vitaMK7<sup>®</sup>**  
natural vitamin K2

**About vitamin K2**

**What are vitamin K2 as MK-7 health benefits?**

**Why vitaMK7<sup>®</sup>**

**How does vitaMK7<sup>®</sup> make a difference?**

**Our solutions**

**What do we supply?**

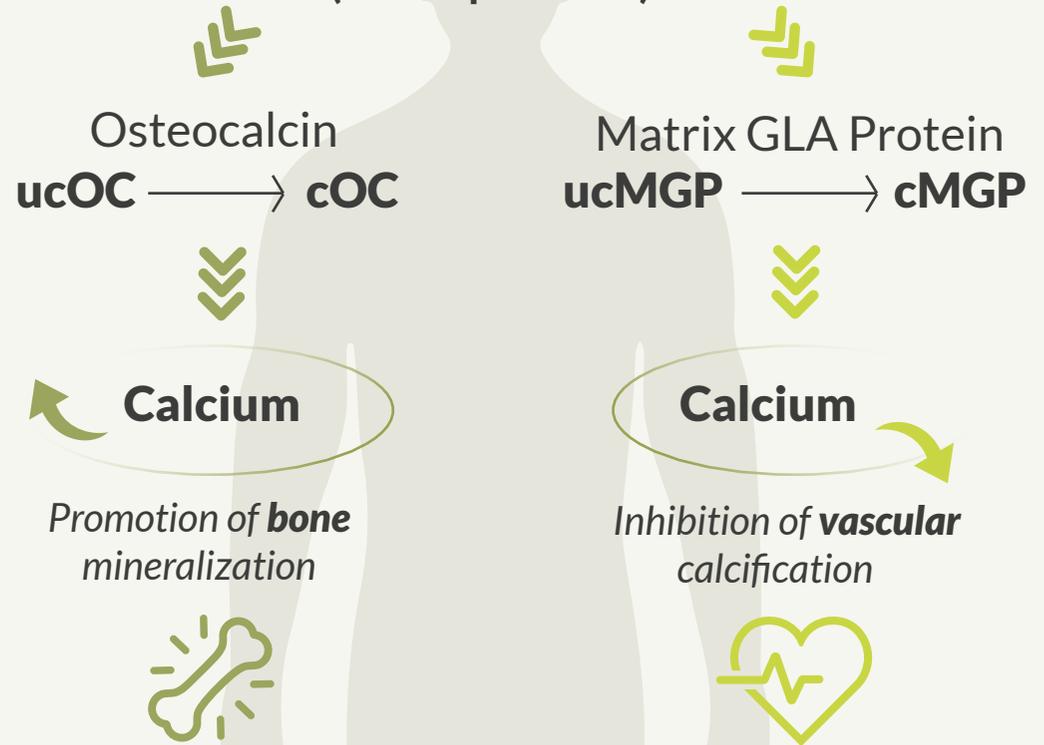
# Vitamin K2 drives calcium in Bones and out of Blood vessels

Vitamin K2 activates a group of **calcium-binding proteins** through **carboxylation**: **Osteocalcin** and **Matrix GLA Protein**.

They are involved in a range of biological effects that **drive calcium in bones** and **avoid calcium deposits in the vascular system**.

## Vitamin K2

(menaquinones)



uc: uncarboxylated = inactive proteins | c: carboxylated = active proteins

# Vitamin K2 promotes Bone and Cardiovascular health

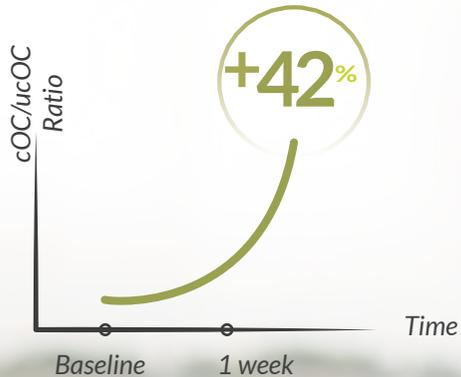


## Bone health

When carboxylated, vitamin K-dependent osteocalcin protein promotes the deposition of calcium into the bone matrix. Serum osteocalcin (OC) level is a sensitive marker that reflects specifically bone formation.

### vitaMK7<sup>®</sup> | Impact of vitamin K2 as MK-7 on Bone formation

According to Gnosis by Lesaffre's in vivo study, the overall activity of cells operating in bone formation was significantly affected by treatment with vitaMK7<sup>®</sup> already after 1 week. The ratio of carboxylated and undercarboxylated osteocalcin (cOC/ucOC) increased by 42%.

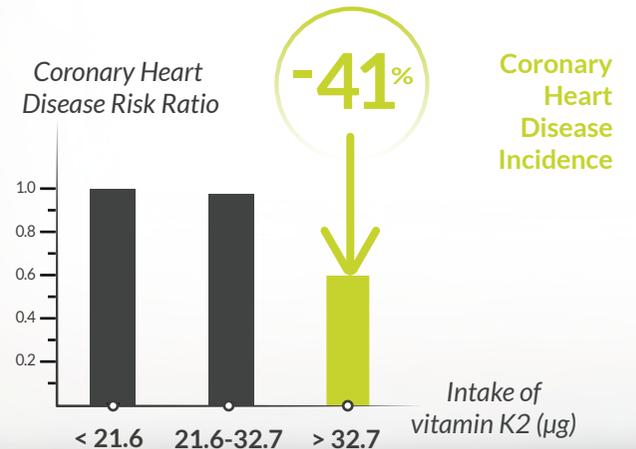


## Cardiovascular health

The level of calcium in cellular tissues is a sign of tissue damage, cellular aging and higher risk of injury in several structures and organs. The vitamin K-dependent Matrix Gla protein (MGP) is recognized as the most potent inhibitor of calcification presently known.

### Impact of vitamin K2 as MK-7 on cardiovascular health | vitaMK7<sup>®</sup>

Studies have proven that vitamin K2 dramatically reduces the risk of cardiovascular diseases (CVD) and early mortality when taken daily.



# Natural

vitaMK7<sup>®</sup> comes from a **unique natural source** of K2, the bacteria *Bacillus subtilis* natto. The strain is proprietary and isolated from commercial natto food from Japan. Our production relies on a **natural fermentation** of our strain of *Bacillus subtilis* natto and purification.

# Pure

vitaMK7<sup>®</sup> is a natural vitamin K2 as MK-7 with a **high level of purity**: it contains >99% of all-trans isomers of Menaquinone-7 (MK-7), a biological active form of vitamin K2.

# vitaMK7<sup>®</sup>

natural vitamin K2

*A branded solution relying on 4 pillars*

# Trustworthy

At Gnosis by Lesaffre, our relationships with customers are anchored by **transparency, accessibility** and **confidentiality**. This is the reason why we offer them the opportunity to control every step of the manufacturing process of vitaMK7<sup>®</sup> in our cGMP plants in Italy and Switzerland.

# Clean

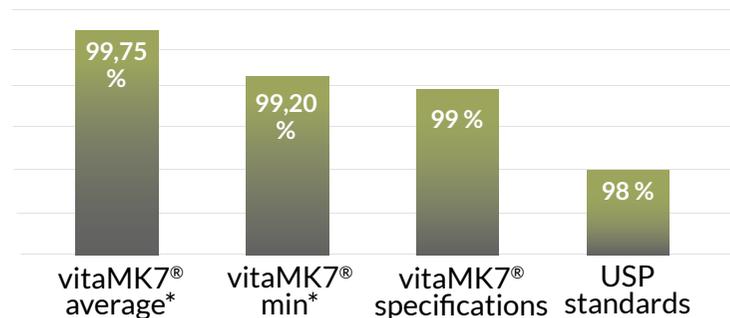
Gluten free, Lactose free, Toxins & Pesticides free, Soy free, Animal material free, GMO free: these attributes demonstrate that vitaMK7<sup>®</sup> is a **clean vitamin K2 as MK-7**.



# vitaMK7<sup>®</sup> achieves a high level of purity



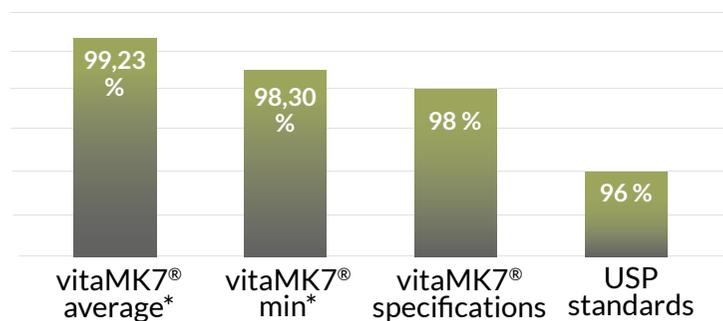
## Isomeric purity >99% all-trans MK-7



**99,75 %\***

Isomeric purity is measured by the percentage of *all-trans* active isomer in the product vs. *cis* isomer.

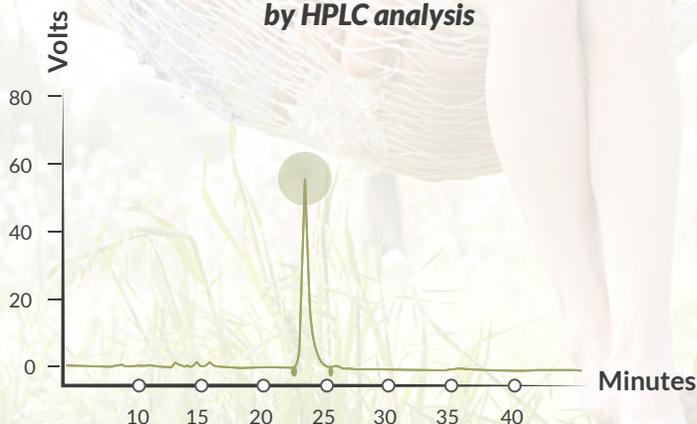
## General purity >98% vitamin K2



**99,23 %\***

General purity is measured by the percentage of vitamin K2 within the product vs. other substances (“impurities”) resulting from the manufacturing process.

vitaMK7<sup>®</sup> isomeric purity by HPLC analysis



\* Scope: 168 production batches manufactured between December 2017 and May 2020

# vitaMK7<sup>®</sup> is available in a wide range of formats and concentrations

## POWDER

Blended in:

- **Maltodextrin**
- **Cellulose**

Concentration from  
1.000 to 10.000 ppm



vitaMK7<sup>®</sup>  
natural vitamin K2

## PURE

Highly-concentrated,  
no carrier

**Concentration >90%**

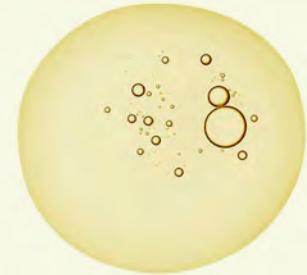


## OIL

Diluted in:

- **Olive oil**
- **Soybean oil**

Concentration from  
1.500 to 20.000 ppm

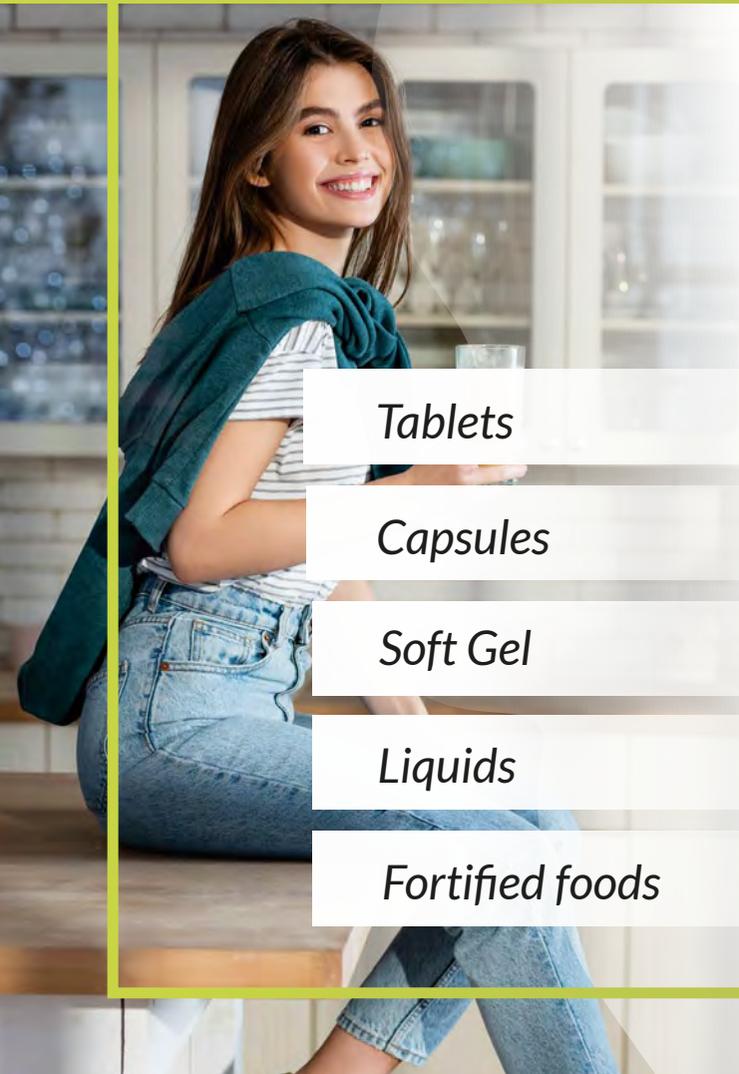


ppm = parts per million, 10.000 ppm means K2 as MK-7 concentration in the product equals 1%

# vitaMK7<sup>®</sup> provides solutions for consumer-friendly formulations

vitaMK7<sup>®</sup> wide range of applications for nutraceuticals and functional foods & beverages

	POWDER		OIL	
	Maltodextrin	Cellulose	Olive oil	Soybean oil
Tablets	X	X		
Capsules	X	X		
Soft Gel			X	X
Liquids	X	X	X	X
Fortified foods	X	X	X	X



# Partnership & Customer support



*Clinical  
Studies*



**Gnosis**  
by **Lesaffre**



*Application  
Support*



*Differentiated  
Branded Solutions*



*Marketing  
Tools*



*Scientific  
Guidance*



*Market  
Knowledge*

**We support our customers  
beyond just products**

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[www.vitaMK7.com](http://www.vitaMK7.com)

## References:

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2. Villa JK et al. Effect of vitamin K in bone metabolism and vascular calcification: a review of mechanisms of action and evidences. Crit Rev Food Sci Nutr. 2016
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*This is a Business to Business information intended for food / food supplements manufacturers and not for the final consumer. Regulatory & Intellectual property requirements vary by country and applications (including claims). We encourage our customers to check the applicable local laws before launching the product on the market for each country. These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease. A healthy, balanced and diversified diet should fulfill all of our nutritional needs.*



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