

The World's Most-Researched Natural Vitamin K2-7

**GOOD FOR MORE THAN YOU  
THOUGHT POSSIBLE!**

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THE WORLD'S MOST-RESEARCHED  
NATURAL VITAMIN K2-7



# ***MenaquinGold***<sup>®</sup> *Natural Vitamin K2-7*

## GOOD FOR MORE THAN YOU THOUGHT POSSIBLE!

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Vitamins – vital amines – are necessary for the body to function properly. Vitamin deficiencies can lead to a variety of ailments, increasing both morbidity and mortality, while getting enough of a vitamin can be good for many aspects of health.

Vitamin K2 has been discovered relatively recently and, the more we study it, the more we realise how beneficial it really is.

Research shows that of the several analogs of vitamin K2, the one that probably benefits humans most is vitamin K2-7.

**MENAQUINGOLD<sup>®</sup> IS A NATURAL FORM OF VITAMIN K2-7**

and is good for your health in an astonishing number of ways.

If you're in the pharmaceutical, nutraceutical or food & beverage industry, supplementing your product with MenaquinGold<sup>®</sup> can also be extremely good for business.

# WHY VITAMIN K2-7 IS GOOD FOR YOUR HEALTH

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Vitamin K2 (also known as menaquinone) has a positive effect on bones, the cardiovascular system, muscles, oxygen uptake, the nervous system, and more. It helps regulate blood sugar and improves insulin sensitivity, which is good news for people with diabetes. How does one vitamin perform so many functions?

Vitamin K2 is necessary for the proper functioning of several physiological processes. For instance, it is responsible for the activation of certain proteins (such as matrix gla protein (MGP) and osteocalcin) through a process called carboxylation. These proteins help to deposit calcium in the bone matrix, where it's needed, and deter it from being deposited in artery walls, preventing calcification which can lead to plaque formation and, eventually, heart attacks and strokes.

So, by initiating carboxylation, vitamin K2 helps fight both osteoporosis and cardiovascular disease.

Studies also show that vitamin K2 is associated with improved oxygen uptake. Oxygen helps your body to generate a chemical called ATP (Adenosine TriPhosphate), which every cell needs to store and use energy. Low oxygen levels are associated with lifestyle-related disorders like diabetes, hypertension, obesity and arteriosclerosis. High oxygen levels are associated with cardio-respiratory fitness and improved athletic performance.



MenaquinGold® is good for your bones, arteries, nervous system, physical performance, and lots more!

By improving oxygen uptake, Vitamin K2 also helps prevent muscle cramps, improves insulin sensitivity, deters peripheral neuropathy, and helps the autonomous nervous system stay balanced. Vitamin K2 comes in a range of related forms, of which K2-7 has superior bioavailability and a longer half-life. MenaquinGold® is a natural form of vitamin K2-7, with all its advantages.

Vitamin K2 is really good for more than you thought possible. More benefits keep being discovered as research continues into this fascinating vitamin.



TREATING CAUSES, RATHER THAN SYMPTOMS

***MenaquinGold***®  
Natural Vitamin K2-7

# WHY MENAQUINGOLD® IS GOOD FOR YOUR BUSINESS

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There's growing excitement across the world about vitamin K2, as more and more people become aware of its benefits. If you are in the pharmaceutical, nutraceutical, or food & beverage industries, you'll also be excited by the ease with which it can be incorporated into pharmaceutical formulations and therapeutic regimens as a dietary supplement. Of all the forms of vitamin K2, MenaquinGold® is your best option for several reasons.

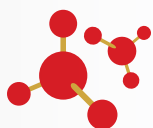
## It's all-natural

MenaquinGold® is produced via a deep tank fermentation process with a non-genetically modified, GRAS organism. This is essentially the same vitamin K2 that is found in high concentrations in natto, a food which has been consumed in Japan for over 2000 years.

## It has a validated identity

An expert team of scientists at Viridis, along with a US FDA-approved third-party analytical laboratory, have developed a validated method to analyze the vitamin K2-7 we produce. Results obtained by advanced analytical techniques – namely, NMR, Mass Spectroscopy and HPLC – have validated the accuracy of the method, as well as confirmed the identity. This has also been certified by two independent US-FDA approved analytical laboratories as part of the development of the equivalent Drug Master File.

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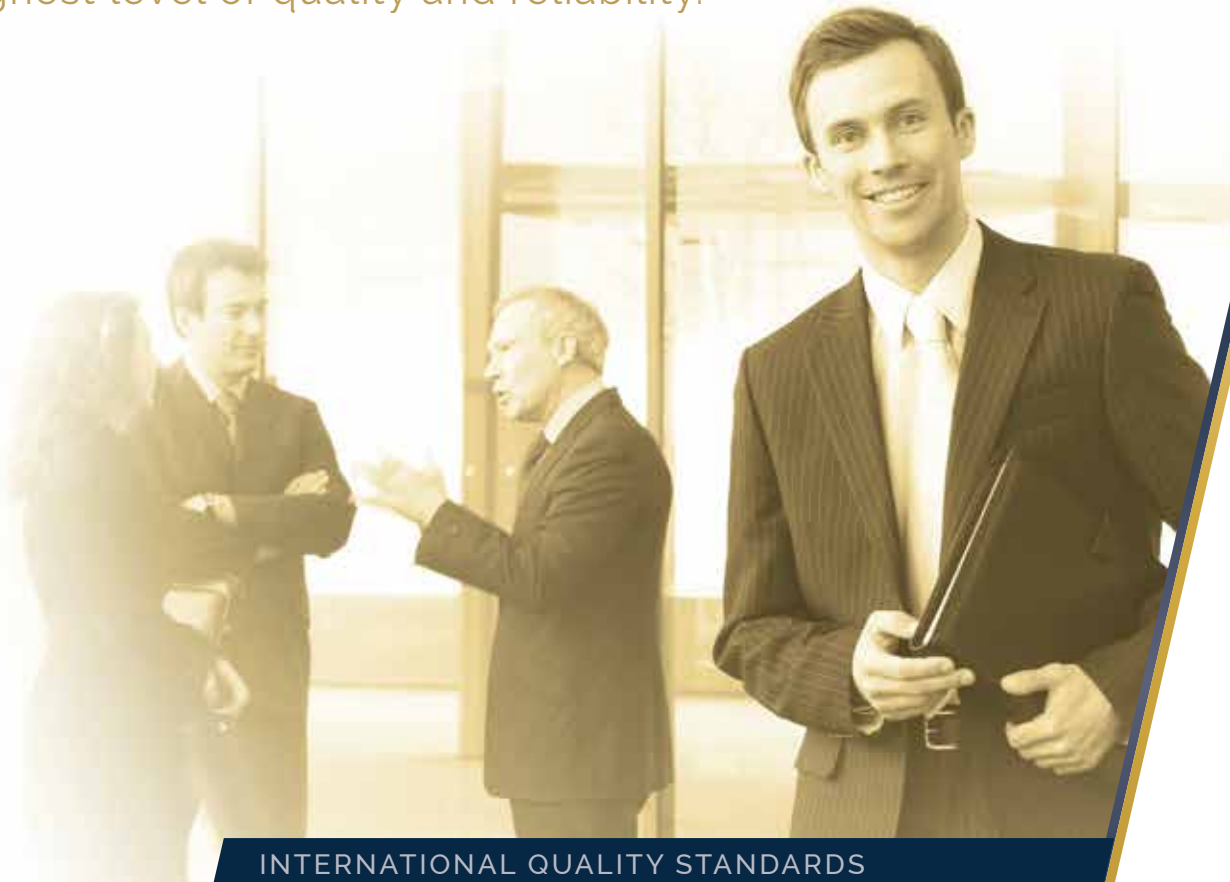


MenaquinGold® is  
a truly world-class product.

It was developed as a prescription ingredient

This means that every aspect of development and manufacture is regulated and validated by a third-party lab and by government authorities.

MenaquinGold<sup>®</sup> has an equivalent Drug Master File, as is necessary when producing a prescription ingredient. This qualifies MenaquinGold<sup>®</sup> with the absolute highest level of quality and reliability.



INTERNATIONAL QUALITY STANDARDS

***MenaquinGold***<sup>®</sup>  
Natural Vitamin K2-7

## It's verified by 2 independent laboratories

MenaquinGold® has a Drug Master File equivalent, and has been scrutinized and validated on various parameters like stability, concentration, and analogs. Two independent, highly creditable analytical laboratories have validated MenaquinGold®.

## Formulation stability is ensured

MenaquinGold® has already been successfully formulated into various dosage forms by several companies. It has been studied for both long-term and accelerated stability. This gives tremendous confidence to supplement formulators on the quality of ingredient for their formulations.

## We are dedicated to vitamin K2-7

With years of extensive research on vitamin K2 from production to clinical usage, we have identified several new indications for vitamin K2. These indications have been filed for patent protection with completed clinical trials, and further studies have been commissioned to provide clinical substantiation. We are among the few suppliers of K2-7 with a broad range of applications available that will likely be patent-protected. Our company has made significant capital investments in the development of the science behind vitamin K2 and thus will have within our portfolio a number of patent-protected applications.



Our end-to-end solutions will help you  
make the most of the buzz about vitamin K2-7



## WE OFFER END-TO-END SOLUTIONS

You get the full benefit of our years of experience in R&D, formulation and marketing. The solutions and services we offer our customers include:

Assistance in developing new product formulations using MenaquinGold®

Assistance in Analytical Method Development and Validation

Assistance in finding innovative application areas

Reference articles and brochures for promotional material

Product samples for R&D trials

Presentations for customer use

Updated scientific and regulatory information

A TRULY WORLD-CLASS PRODUCT

***MenaquinGold***®  
Natural Vitamin K2-7

# HOW TO INCORPORATE MENAQUINGOLD® INTO YOUR PRODUCT

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MenaquinGold® can be formulated as a stand-alone or in combination with other functional ingredients. It can be incorporated in a tablet, capsule, softgel or sachet, and lends itself easily to the fortification of food and beverages.

Viridis BioPharma can assist you to meet the growing demand for products fortified with vitamin K2, as well as other active ingredients, with our end-to-end solutions.

## Indications

Vitamin K2 can improve the efficacy of formulations that address therapeutic areas such as:

- Bones
- Muscles
- Energy
- Cardiovascular
- Nervous system
- Diabetes management



Fortify your product – and profits –  
with MenaquinGold®

## Combinations

MenaquinGold® may be combined with several ingredients to improve functionality of formulation. Here is a partial list of suitable combinational ingredients:

- Calcium salts
- Vitamin E
- Vitamin C
- Zinc salts
- Tocotrienols
- Boron salts
- Vitamin D3
- Magnesium salts
- Omega 3 fatty acids
- Carotenoids
- Phytosterols
- COQ<sub>10</sub>

## Fortification of Food & Beverages

Here is a partial list of F&B products that can be fortified with MenaquinGold®:

- Dairy products
- Vegetable oils and spreads
- Confectionary & chocolates
- Sports beverages
- Fruit juices
- Breads
- Soy milk
- Energy Bars

BENEFIT FROM OUR EXPERIENCE

***MenaquinGold***<sup>®</sup>  
Natural Vitamin K2-7

# GOODNESS THAT'S BUILT-IN – A CLOSER LOOK AT MENAQUINGOLD®

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MenaquinGold® is an outstanding, world-class product because we've worked hard to make it so. There's quality built into every stage of manufacture. We're also diligent about safety studies and research into new applications.

## Plant

MenaquinGold® is manufactured by Synergia Life Sciences, a subsidiary of Viridis BioPharma, near Mumbai, India, in a GMP-certified plant. Spread over some 60,000 square feet, our state-of-the-art manufacturing facility is a center for excellence, well equipped with all the essential safety parameters and technical certifications.

This world-class facility is equipped with:

- State-of-the-art technology and equipment
- Microbiology laboratory
- Quality Assurance laboratory
- Clean room facility

The facility is also accredited by external agencies: it has cGMP, HACCP and ISO 22000 certification, and the product has Halal and Kosher approval.

## People

The qualified personnel at Viridis BioPharma have years of experience in the pharmaceutical and F&B industries. The research and development team has exceptional proficiency in developing new formulations.

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It took us 4 years to develop a completely unique and proprietary method of extracting vitamin K2-7.

## Process

It's not easy to manufacture natural vitamin K2-7. It took us 4 years to develop a completely unique and proprietary method of extracting vitamin K2-7. It uses submerged fermentation with a *Bacillus* organism and achieves the highest concentrations of natural vitamin K2-7 with an ideal supportive profile.

Our proprietary extraction method also prevents the accumulation of metabolites that affect the long-term stability of vitamin K2-7. Thus, MenaquinGold® has an unsurpassed stability record.

## Product safety

Safety and toxicity testing requirements for assessing the safety of food ingredients have evolved over the years and now should include both short-term or acute studies as well as comprehensive, long-term toxicity studies. Viridis BioPharma has been diligent about conducting or sponsoring research into the safety aspects of MenaquinGold®. In making the decisions about such studies, we take into account what is already known about the properties of the compound, its intended conditions of use, and current standards for testing.



YEARS OF EXTENSIVE RESEARCH

***MenaquinGold***<sup>®</sup>  
Natural Vitamin K2-7

## Patents

Viridis BioPharma has advanced the science and understanding of vitamin K2-7 with extensive research on its production and applications. We have discovered several novel and critical functions of Vitamin K2-7 in the body and now have 3 PCT patent applications filed, as well as 2 process patents.

## Philosophy

Viridis BioPharma is a healthcare company with a difference. Our mission is to improve patient quality of life without compromising safety through the metabolic management of chronic & Life Style Related diseases.

The industry trend is to treat symptoms, to over-medicate, and to emphasize efficacy over safety. Recent history is full of products that were recalled because of serious side effects.

At Viridis, we believe in treating causes rather than symptoms, with effective therapies that restore natural metabolic processes. We believe in lower doses and new, scientifically proven mechanisms.

This is the philosophy behind MenaquinGold® and all the other products we deal in.



For more information on Viridis BioPharma  
[www.viridisbiopharma.com](http://www.viridisbiopharma.com)

For more information on MenaquinGold®  
[www.menaquingold.com](http://www.menaquingold.com)

## PRODUCT SPECIFICATIONS

Various grades of MenaquinGold® are available in powder and oil form (including a water-soluble variety) to satisfy your application and formulation needs.

Our standard offerings are:

### Granule Grade

2500 ppm

### Powder Grade

1000 ppm

### Oil Grade

1500 ppm

### Water-Soluble Grade (Powder)

1000 ppm / 2000 ppm

### Water-Soluble Grade (Liquid)

2000 ppm / 10000 ppm



PATENTED APPLICATIONS

***MenaquinGold***®  
Natural Vitamin K2-7



VBP/MQG\_PB/092014/

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Manufactured by :



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