

MenaQ7[®]
Vitamin K2 as MK-7

 **Quatrefolic**[®]
The 4th generation folate

 **Gnosis**
by Lesaffre



 Biogredia

BIOGREDIA
HEALTH & NUTRITION
SUMMIT
2023

**Shaping the
future of
Vitamin K2**

**Discover
Quatrefolic,
the folate
blockbuster**

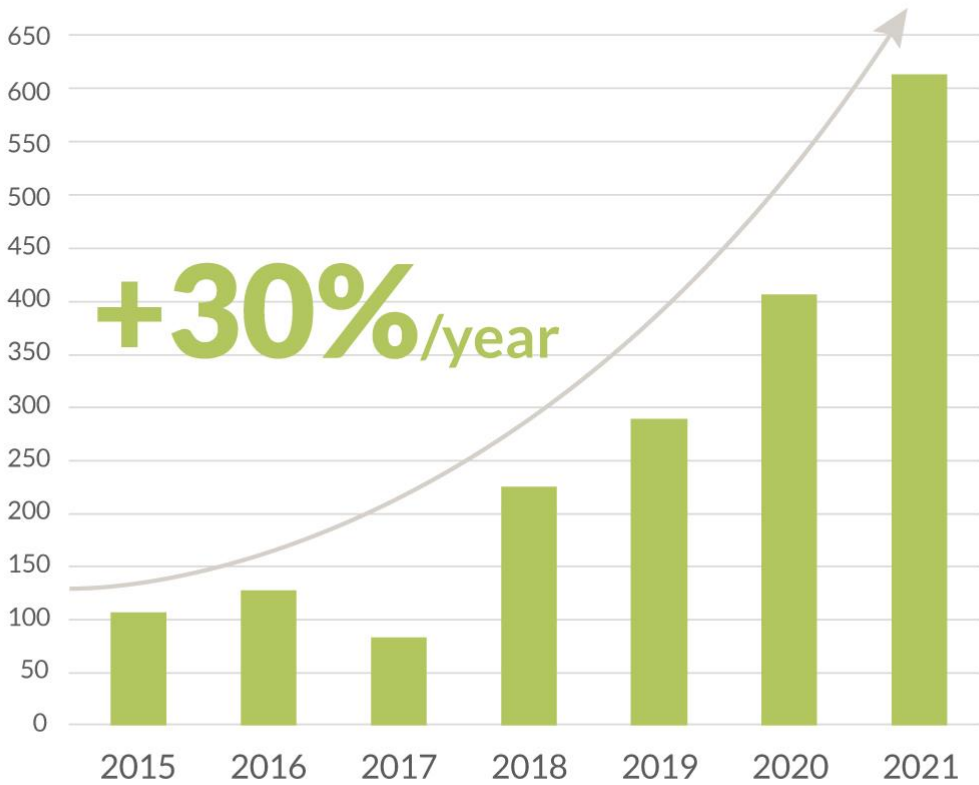
Shaping the future of Vitamin K2



Vitamin K2: A driver for industry growth

New product launches featuring Vitamin K2 (2015-21)

Selection of finished products featuring Vitamin K2



K2 stand alone



K3 + D3 combination



K2 + Calcium combination



K2 + Omega 3 combination



Gummies



Sport nutrition powder



Dairy



Chocolate bar

Source: Innova Database 2015-2021, <https://new.innovadatabase.com/>

Consumer Awareness in K2 Continues To Grow

- Vitamin K2 ranks in **the TOP 10** ingredients used
- Increase in **Younger** Demographics
- **60%** look for **branded ingredients**

Attributes scoring the highest:

- Clinical validation
- Quality
- Efficacy

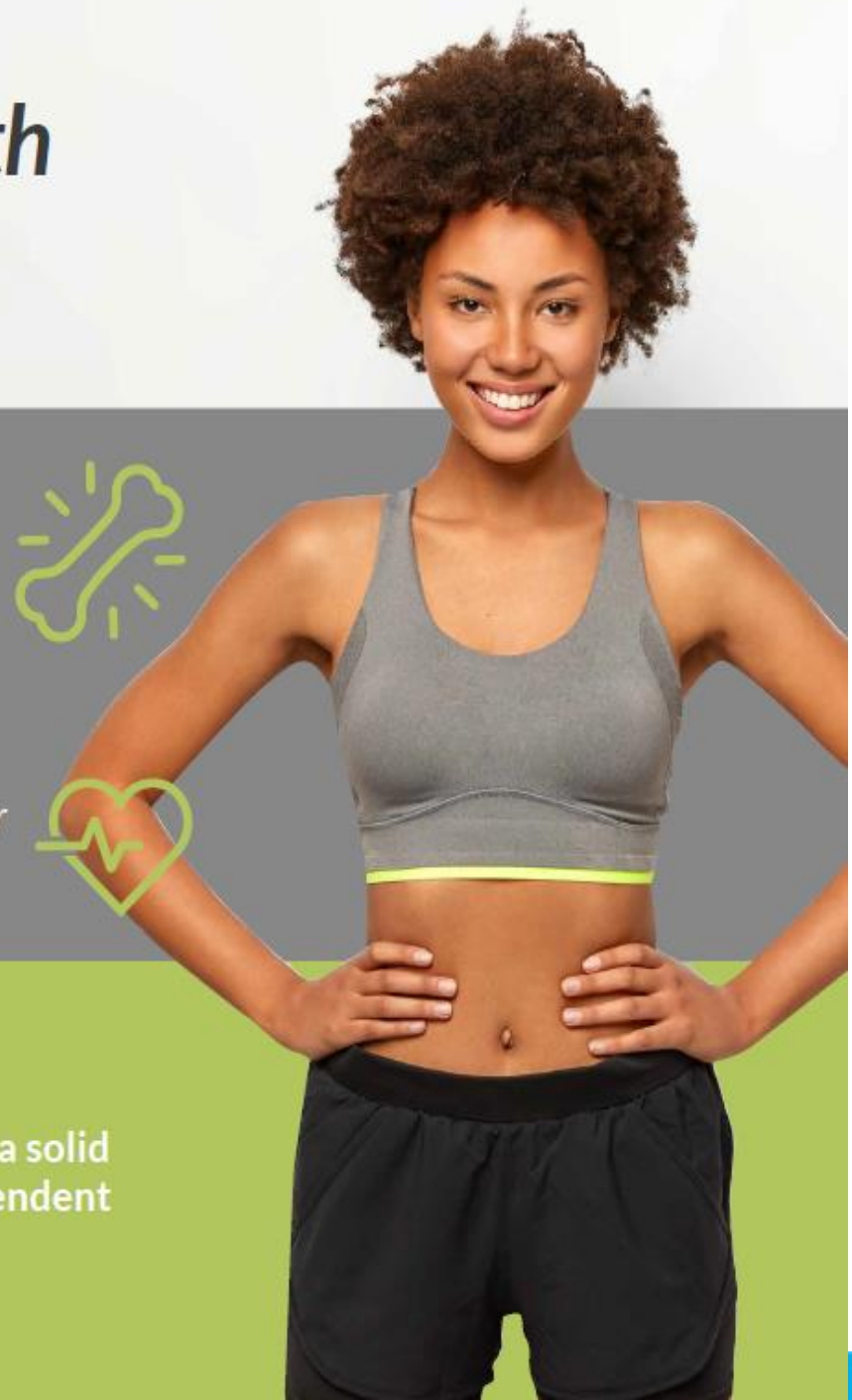


“ITC Insights – 2022 Supplement Consumer Survey”

Vitamin K2 Promotes Bone & Heart Health by Activating 2 Important Proteins



Through its central role in managing calcium in the body, Vitamin K2 is critical in forming a solid bone matrix and a healthy cardiovascular system via the activation of the Vitamin K-dependent proteins Osteocalcin and Matrix Gla Protein.



Key Nutrients are Better when Paired with Vitamin K2

*Vitamin K2 is key
in Better Together
formulations
Did you know?*

Vitamin D + K2

Add Vitamin K2 to your Vitamin D products and make your supplement stronger and better for heart, bone, and immunity.

Vitamin D is needed to produce important vitamin K-dependent proteins OC and MGP. However, you need Vitamin K2 to activate these proteins to ensure calcium is directed to bone and away from arteries and soft tissues. Also, they both work to suppress immune-mediated inflammation and work to inhibit oxidative stress.

[info sheet >>>](#)



Omega-3 + K2

Combining these two complementary and synergistic nutrients creates ideal formulations for the healthy aging category, but also for children's early development.

By balancing the Calcium metabolism, Vitamin K2 offers a synergistic role with Omega-3, creating unsurpassed cardiovascular formulas that also deliver bone health benefits.

[info sheet >>>](#)



Calcium + Vitamin K2

Adequate Calcium intake throughout childhood and adolescence is important to build and protect strong bones and teeth. However, without adequate Vitamin K2 to ensure Calcium is deposited in the bone matrix, Calcium cannot be properly utilized to build and maintain healthy, strong bones. To optimize any bone complex formulation, Vitamin K2 is key!

Vitamin K2 for All of Life's Stages

Science-based Personalized Approach

Postmenopausal Women



Healthy Aging



Laying the foundation for healthy aging begins in childhood.
Vitamin K2 deficiency Across All Age Groups



Children & Adolescents



Pregnancy & nursing



Younger, Active Audience



Shaping The Vitamin K2 Future



- ✓ Comprehensive K2 Portfolio & Solutions Platform. Driving the market, answering to consumer preferences and quality standards
- ✓ Branded Ingredients allow for strong and differentiated positioning for your product.
- ✓ Leading the vitamin K2 Scientific Development, Education & Awareness
- ✓ Thought leadership and Educational Marketing

Shaping the Future of Vitamin K2



Driving the K2 Category



Innovative Formulations



Convenient Delivery Formats



New Clinical Research










Educational Marketing

New opportunities with Vitamin K2 targeting new consumers:
Healthy agers,
Active lifestylers,
Millenials,
Sports enthusiasts...

Most Comprehensive K2 Solutions Platform

Ensures New Opportunities and K2 Stability in Creative Delivery Formats

APPLICATIONS		K2 SOLUTIONS PLATFORM				
Finished product	Formulation	Standard powder	Protected powder	Dispersible & protected powder	Oil	Concentrate powder
 Tablets <ul style="list-style-type: none"> • Standard tablets • Chewable tablets • Effervescent tablets • Hard capsules 	K2 stand-alone	✓				
	K2 with single less aggressive minerals	✓	✓			
	K2 with aggressive minerals		✓			
 Softgels					✓	✓
 Liquids <ul style="list-style-type: none"> • Droplets • Sprays • Syrups 					✓	✓
 Gummies		✓		✓	✓	✓
 Soft Chews		✓	✓		✓	✓
 Ready-to-drink powder <ul style="list-style-type: none"> • Plant based protein powder • Fortified protein powder (minerals) 				✓		
 Dairy	Milk powder			✓		
	Milk powder fortified with minerals			✓		
	Yogurt				✓	

New – Matrix K2 powder



Recognized for:

- > *Enhanced Protection*
- > *Clean label*
- > *Eases Formulation Process*

- Awarded innovative & proprietary technology. Protection
- Incl. technical support.
- Ensuring our customers deliver stable K2 formulations to the market.

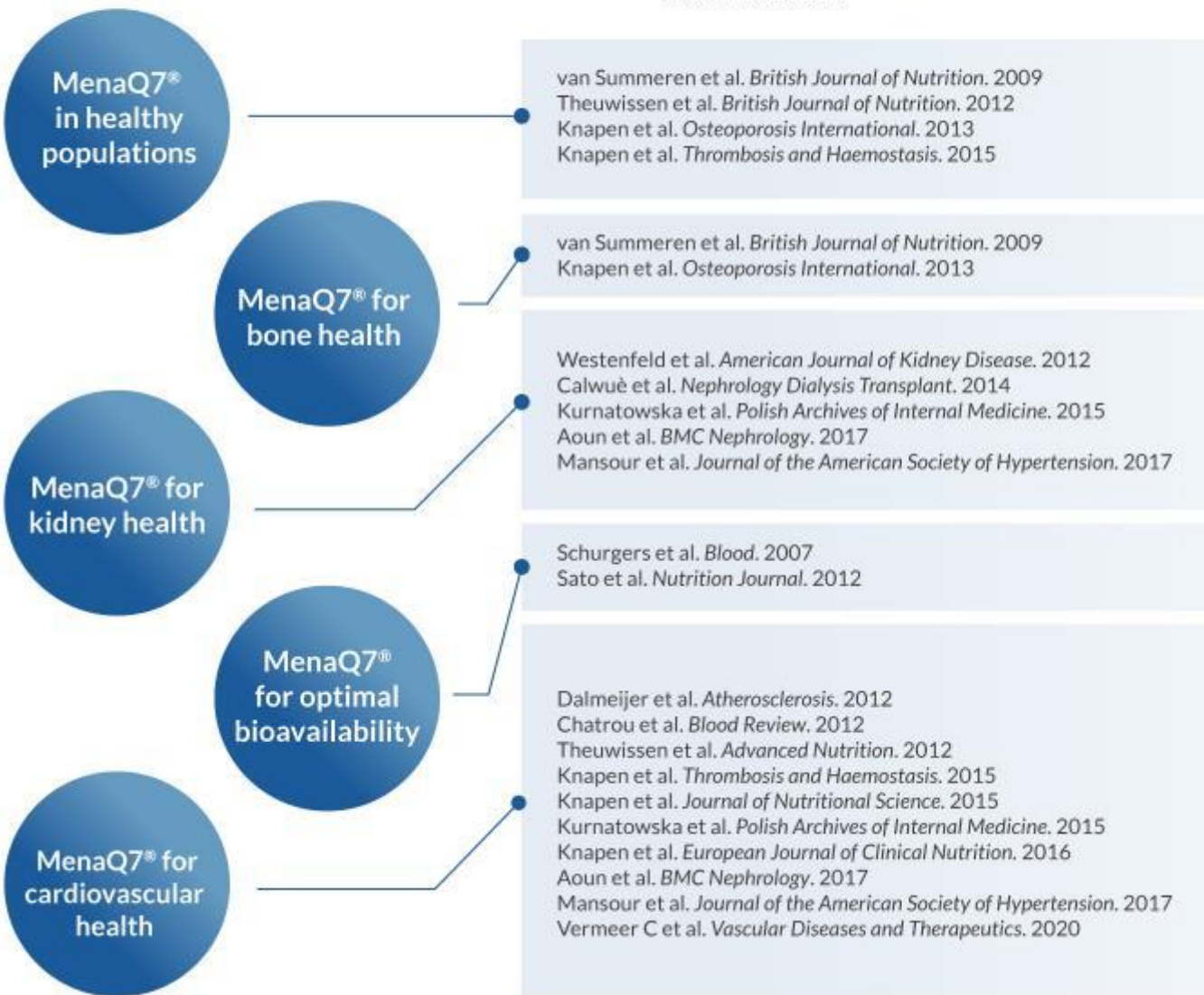
The only Vitamin K2 as MK7 Proven for Bone and Heart Health



Vitamin K2 =



+



Supplementing with Vitamin K2 is an easy strategy to support bone and cardiovascular health in all age groups.

MenaQ7[®] is the **PREMIUM option** for brands and medical professionals that require ingredients with proven efficacy and safety.

- 1** Most Clinically Proven K2 as MK-7 for Bone and Heart Health
- 2** Cooperative & Educational Marketing
- 3** Strong Co-Branding
- 4** International Patents for Use and Production
- 5** Innovate for differentiation

vitaMK7[®]

natural vitamin K2

vitaMK7[®] is the right option for CMOs that requires **good value for money**, easy to formulate & trusted vitamin K2.

Diana: Please can you Remove good value for money bubble, plus “internal use”

INTERNAL USE ONLY

**Good VALUE
for Money**

**NATURAL
fermentation-derived
vitamin K2,
based on GbL
proprietary strain
from Japanese
natto**

**TRUSTED
vitamin K2 made in
Europe in
GbL own cGMP
plants**

**FORMULATION
FRIENDLY
solutions for all
vitamin K2
applications**

**From a unique
natural source of
K2, the bacteria
Bacillus subtilis
natto**



Vitamin K2 Suppliers Are Not All Equal

Either Vitamin K2 MK-7 is Naturally-Derived or it Synthetic

Natural fermentation

Chemical synthesis

Use of microorganisms to mimic what is happening in nature

Use of chemical compounds and successive chemical reactions



Do some brands market their Vitamin K2 as natural when it is in fact synthetic?



Only **Vitamin K2** from fermentation can be promoted as being from natural origin to consumers

MenaQ7[®]
Vitamin K2 as MK-7

vitaMK7[®]
natural vitamin K2

PURE & NATURAL



The biological activity of MK-7 is strictly linked to its natural, structural *all-trans* configuration.

**Gnosis by Lesaffre produces vitamin K2 naturally from a patented fermentation process.
>99% all-trans Menaquinone-7 (MK-7)**

➤ **Ensure to deliver actual health benefits that consumers expect!**

MenaQ7[®]
Vitamin K2 as MK-7

vitaMK7[®]
natural vitamin K2

MADE IN EUROPE

Gnosis by Lesaffre is the only European vitamin K2 as MK-7 of natural origin produced with no intermediaries or brokers.

- Clean Label
- No Allergens
- Only non-GMO ingredients
- Halal and kosher certified
- Vegetarian and Vegan friendly



Highest
Quality
Standards



- ★ Kosher
- ★ Halal approved
- ★ EU GMP manufacturing

CQY
CERTIQUALITY

FSSC 22000

CERTIFICATO n°
CERTIFICATE n° 50820

«Exploring
opportunities for
success and growth
with Quatrefolic®»

Lorena Carboni

 **Quatrefolic**®
The 4th generation folate





 **Quatrefolic**[®]
The 4th generation folate

FOLATE MARKET OVERVIEW

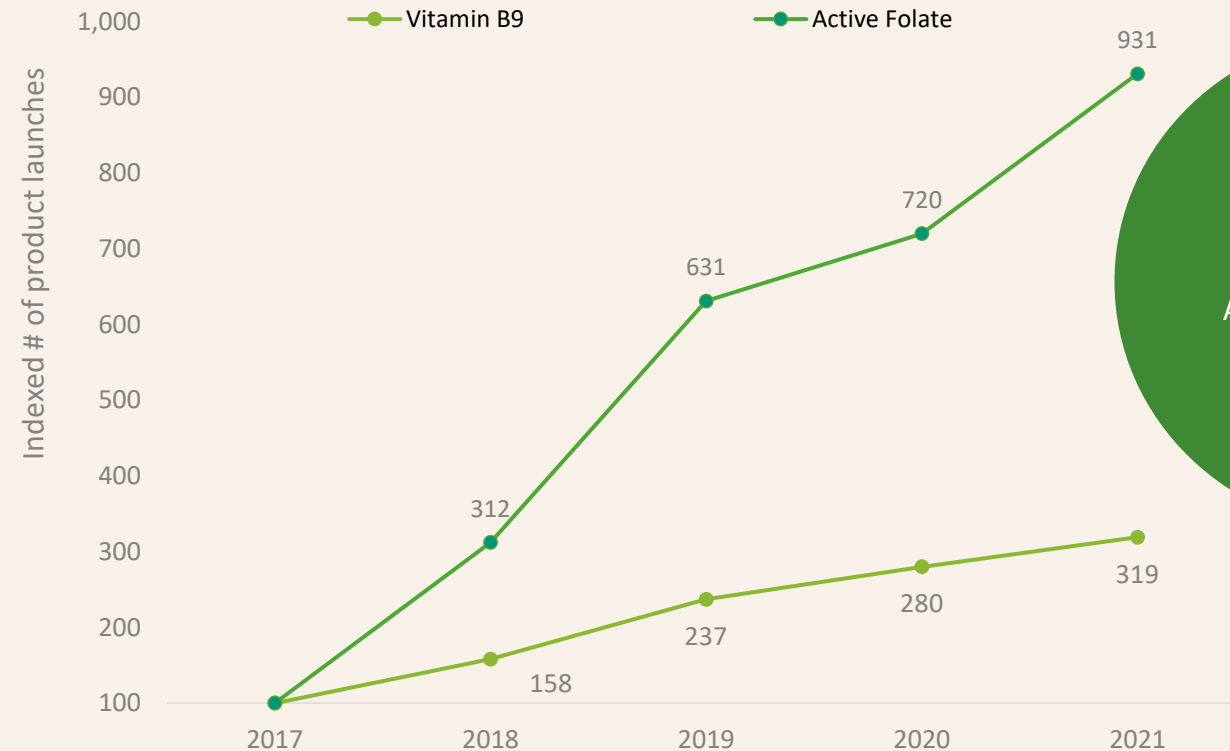
Facts about folate

- **Human health: Mandatory vitamin in pregnancy, more or less worldwide.**
- **Strong trend - Switch to Active folate from folic acid**
- **New benefits incl. cardiovascular health, mood, brain, preconception, male fertility etc.**



ACTIVE FOLATE SUPPLEMENTS LAUNCHES GROWING

Active folate product launches show a great potential



+75% Active folate
Average annual growth 2017-2020

Source: Innova Market Insights

Note: *Includes active folate specified as MTHF, Quatrefolic, levomefolic, etc.

THE FORMS OF FOLATE

FOLATES

- Naturally found in foods
- Must be hydrolyzed
- Unstable

FOLIC ACID

- Synthetic oxidized form of folate
- More stable than the natural form of folate
- Not active - Needs to be metabolized
- Must be converted to reduce folate the active one
- Added in supplements and fortified foods

The folic acid that is most found in vitamin supplements and fortified food is NOT folate.

It must be converted from folic acid to methyl tetrahydrofolate (5-MTHF) before it can be used by the body.

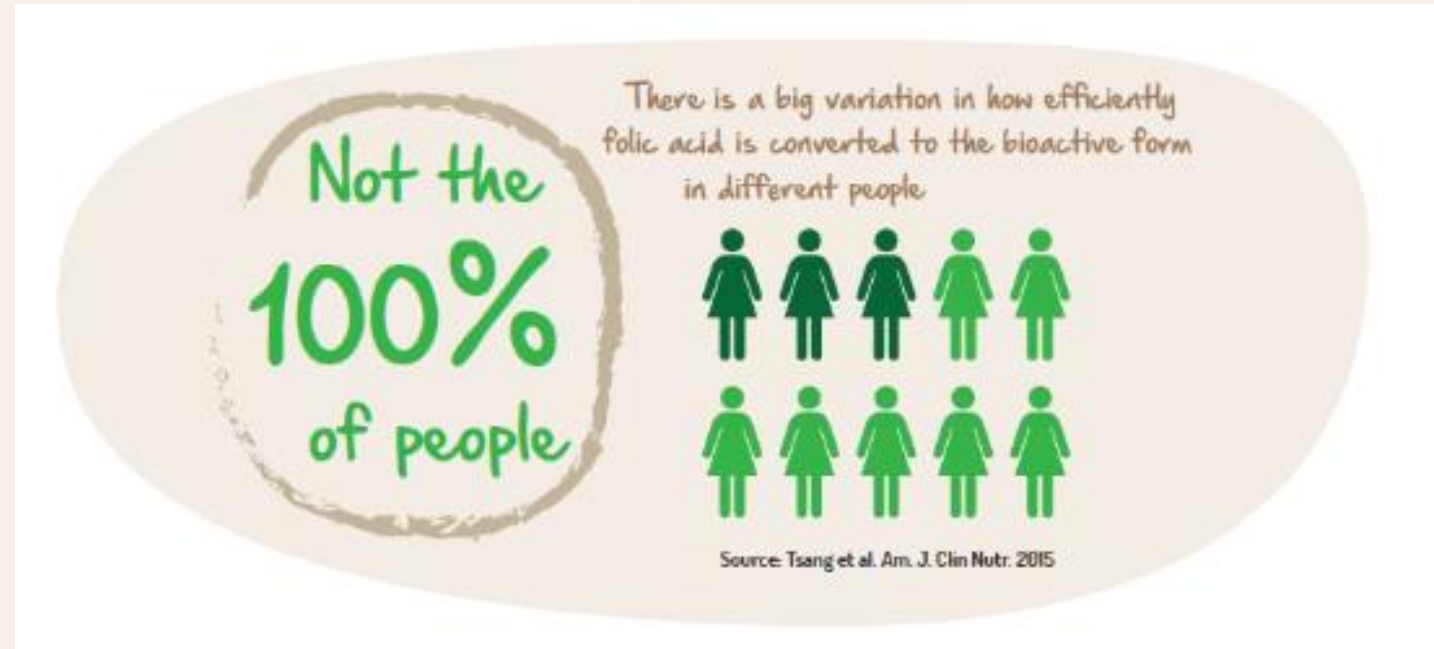


Quatrefolic®

A MARKET TREND FOLLOWING A REAL NEED

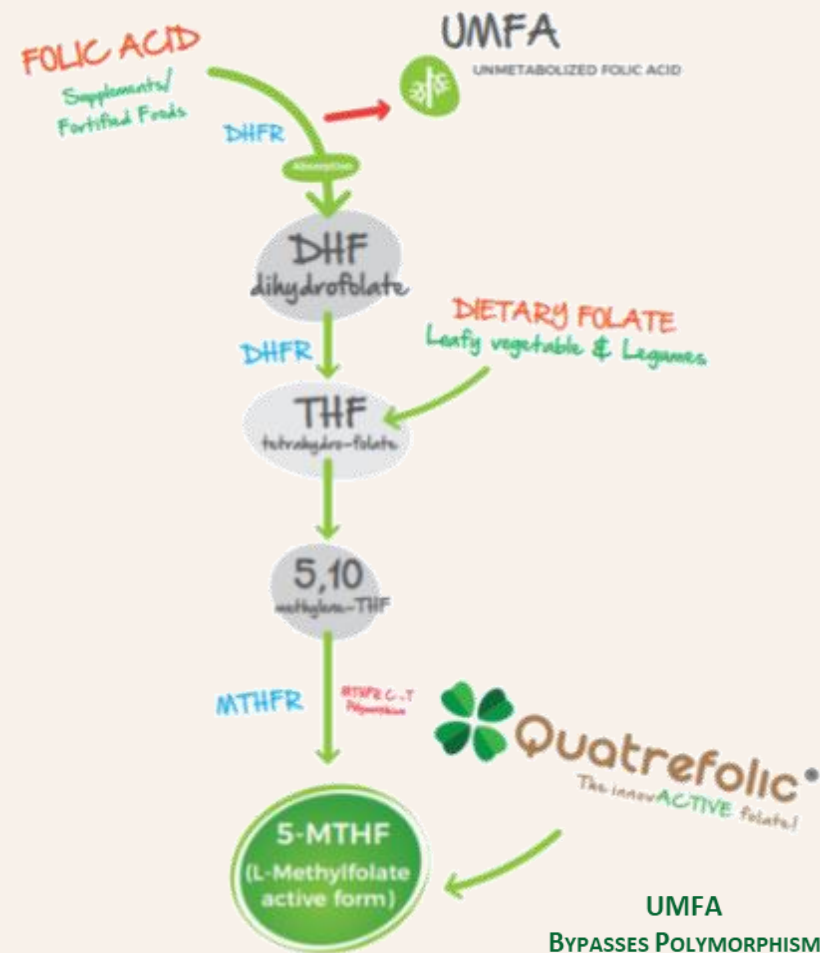
- WHY ACTIVE FOLATE Quatrefolic[®] IS IMPORTANT

- Not all can benefit from folate
- The **MTHFR polymorphism** is one of the most studied enzyme defects impacting folate availability and human health
- For women especially this deficiency can cause some important health issue



WHY ACTIVE FOLATE Quatrefolic® IS IMPORTANT

- ❁ Quatrefolic® is the active form of folate, readily available for transport and use in human body and tissues.
- ❁ Directly bioavailable, and for everybody.
- ❁ No metabolization steps needed.
- ❁ Glucosamine salt – 100% soluble and 100 times more soluble than Calcium salt.





Quatrefolic[®] Summary

WHY ACTIVE FOLATE Quatrefolic® IS IMPORTANT

- INNOVACTIVE FOLATE, NO NEED FOR METABOLIZATION
- 5-MTHF GLUCOSAMINE SALT- 100% SOLUBLE
- SUITABLE FOR DIFFERENT FORMULATIONS
- SUPPORTING MORE THAN PREGNANCY; EXTENDED BENEFITS
- UNIQUE BRAND
- THE KEY PLAYER OF FOLATE SCIENCE WORLDWIDE
- ALL THE SCIENTIFIC -STATE OF THE ART ON FOLATE + COMMITMENT ON EVENTS AND SEMINARS
- DEDICATED CUSTOMER MKT TOOLS, VIDEOS ETC.



PATENTED AND PRODUCED BY
GNOSIS BY LESAFFRE



GROWING OPPORTUNITIES WITH APPROVED CLAIMS EFSA/(NORAM)



Folate contributes to normal psychological function



Folate contributes to the normal function of the immune system



Folate contributes to the reduction of tiredness and fatigue



Folate has a role in the process of cell division



Folate contributes to maternal tissue growth during pregnancy



Folate contributes to normal amino acid synthesis



Folate contributes to normal homocysteine metabolism



Folate contributes to normal blood formation



Quatrefolic® Applications and Opportunities

EXAMPLES SUPPLEMENTS WITH Quatrefolic®

Immunity



Canprev Vitamin B9 Folate Supplement, 90 Capsules

Canada, Apr 2022

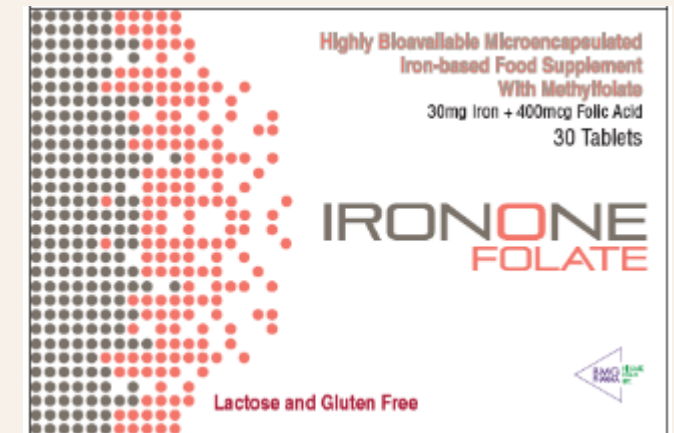
Mental Function & Mood



The Wahls Protocol Activated Bs Dietary Supplement

United States, Aug 2022

Anemia



Time Health Longevity Food Supplement, 60 Vegan Capsules

Katar, Russia, EU, Asia Set 2022

with **LIPOFER**

Source: Innova Market Insights

EXAMPLES SUPPLEMENTS WITH Quatrefolic®

Energy



Five Journeys B Methylated Dietary Supplement, 60 Tablets

United States, Jun 2022

Pregnancy



Naturobest Preconception Multi for Women Dietary Supplement, 60 Hard Capsules

Australia, Jun 2021

Stamina



Time Health Longevity Food Supplement, 60 Vegan Capsules

United Kingdom, Jan 2022

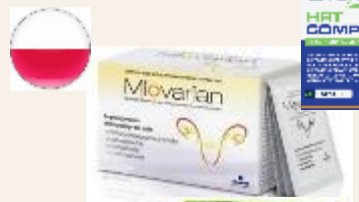
Source: Innova Market Insights

EXAMPLES SUPPLEMENTS WITH Quatrefolic®

Pregnancy



Infertility



Cardio & Sport



Anemia



Sexual Health



Quatrefolic[®]

Menaq7[®]

vitaMK7[®]

RESPONDING TO MARKET NEEDS

- Natural. Fermentation-based
- Solution platforms responding to consumer preferences and needs. Delivery, quality, stability.
- New: Matrix K2 technology and Quatrefolic Fine Powder
- Science Beyond:
 - pregnancy: preconception, male fertility, heart, mood and brain
 - bone teeth to cardiovascular focus
- Key nutrients – Better-Together - to drive the market
- Customer marketing support model

Customer Marketing Support Platform: “Partnering for Your Success”

How can we support your marketing program?

- Co-branding
- Marketing Collateral, Videos, Animations
- Experts Speakers at Customer Events, Seminars, Congresses
- Co-Promotion at Tradeshows
- PR Campaigns B2B and B2C
- Webinars.
- Customer – Sponsored Educational Events
- Digital focus – and tools

DEDICATED WEBSITES
DEDICATED YOUTUBE CHANNELS
DEDICATED NEWSLETTERS
INSTAGRAM AND SOCIALNETWORK

Gnosis - Digital Focus

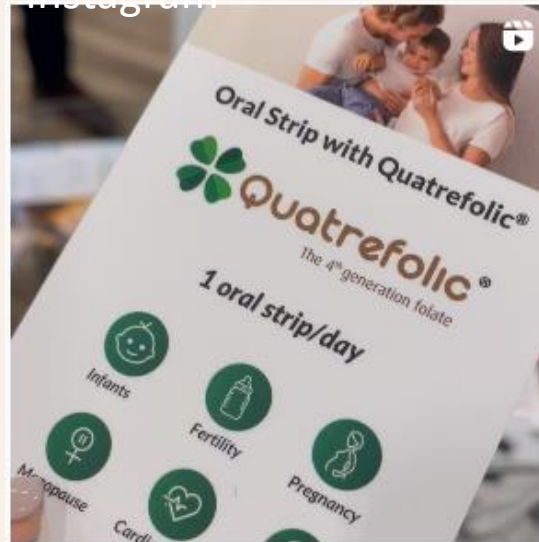
LinkedIn



NUTRITIONINSIGHT.COM

Benefits of active folate 5-MTHF detailed in Gnosis by Lesaffre book
10 Jun 2020 --- A new book from Gnosis by Lesaffre called The Innovative Folate: 5-MTHF on ...

Instagram



19 January 2023



nutraceutical+ ALERTS BUSINESS REVIEW e-news

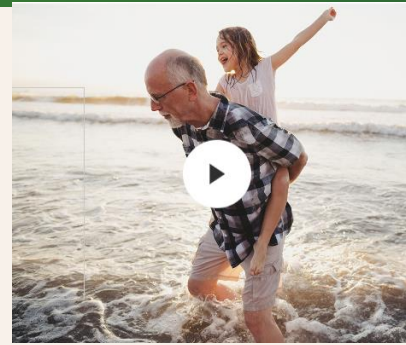
Perfecting the protection of vitamin K2



Ensuring the stability of menaquinone ingredients can be as complex as the finished product formulations that brand owners are creating.

Research shows that moisture and mineral salts are critical variables for degradation, driving the need for a protective technology to shelter the menaquinone molecules during their shelf-life.

Depending on the final formulation...



SPEAKERS

Webinars



LUCA TIANO
PhD in Biochemistry, Ass.
Professor of Nanoparticles and
Nanobiophysics at the
Polytechnic University of
Marche, Italy



Gnosis
Lesaffre

Lifeinu BSCU1
THE STABLE PROBIOTIC THAT SUPPORTS IMMUNITY
Antoine Vanhove
Dr. Stacey Smith



5 Things to know about vitaMK7®

vitaMK7® contains 99% of all-trans Menaquinone 7
0:57

MenaQ7®
Vitamin K2 as MK-7
Proven to Protect Cardiovascular Health
DOWNLOAD THE LEAFLET!

Gnosis.com
MenaQ7®
Vitamin K2 as MK-7
New MenaQ7® Matrix

Download our new brochure: MenaQ7® Matrix - Gnosis by Lesaffre

gnosisbylesaffre.com • 1 min read

Health 360° Quatrefolic®
The 4th generation folate
active folate and mood health issues

Worldwide, an estimated 264 million people are affected by depression. For the past two years, Covid-19 and social challenges have affected the population's mental health. Only in the U.S.A., 42% of adults reported symptoms of anxiety and depression, up from 15% in previous years. As the need grows, the search for a meaningful response and a long-term solution is among the top priorities in the supplementation health trend.

The 2022 FMCG Gurus report has highlighted that 48% of global supplement consumers had a strong desire to take care of their mental wellbeing for the next 12 months. People recognize their mental health as important as physical health (immunity, digestive) as a lever to improve their overall wellbeing.

In reaction to these trends, the growth of sales of supplementation dedicated to mental health and mood has increased. Many ingredients, some more natural than the others, have been launched on the market as stress relief or helping to cope with a mental health issue.

Mood and Mental health supplementations sales

Year	Sales (Million USD)
2016	~500
2017	~600
2018	~700
2019	~800
2020	~900
2021	~1,000
2022	~1,100
2023	~1,200
2024*	~1,300

Source: Nutrition Business Journal (NBJ), consumer sales
FMCG GURUS TOP 10 TRENDS FOR 2022
https://www.nutritionbusinessjournal.com/2022/02/01/2022-top-10-trends/

Gnosis Lesaffre

THANK YOU FOR YOUR ATTENTION

Lorena Carboni

Biogredia Gstaad 2023 Seminar

27.01.2023



QUATREFOLIC.COM