



High EPA Concentrates

■ For Heart Health

[For info and samples click here!](#)

CRODA

[HEADLINES](#) [TOPICS](#) [PRODUCT NEWS](#) [HEALTH CONDITIONS](#) [PRODUCTS](#) [JOBS](#) [EVENTS](#)

Search

[PRODUCT NEWS](#) > [VITAMINS & PREMIXES](#)

Subscribe to the
Newsletter

Text size Print Forward

13

0

3

2

Tweet

Like

Share

Follow @NutraEurope 3,713 followers

Like

641 people like this. Be the first of your friends.

Vitamin K may affect arterial calcification for hypertensives: Multi-ethnic study

By Stephen DANIELLS , 21-Jun-2013



Related tags: [Menaquinone-7](#), [Arterial calcification](#), [Vitamin K](#)

Related topics: [Research](#), [Vitamins & premixes](#), [Cardiovascular health](#)

Low vitamin K1 levels may increase in the progression of arterial calcification, or hardening of the arteries, says a new study that may have greater implications for vitamin K2 than K1.

Analysis of data from over 850 people indicated that low vitamin K1 levels in people with high blood pressure and taking anti-hypertensive medications may increase the progression of arterial calcification.

"We unexpectedly showed that hypertensives (defined according to medication use) were significantly more likely to have extreme CAC [coronary artery calcium] progression if they had low serum vitamin K1 than were persons who were not taking antihypertension medication," wrote the researchers in the *American Journal of Clinical Nutrition*.

Since one in five (20%) adults in the US are treated for hypertension, and about half of all US adults may have low vitamin K status, the researchers called for additional studies to further explore the observations from their study.

K forms

RELATED NEWS:

Water soluble vitamin K2 form targets 'significant demand for K2 in food products, especially beverages'

Newly available test will help qualify vitamin K2 sources, originators say

The forgotten vitamin: 'K2 has not even begun to realize its potential'

Vitamin K2 shows 'extremely important improvements in clinical outcomes' for bone health

Vitamin K2: Study unlocks

Target the joint-health market with **Regenasure® glucosamine.**

GET THE
LATEST RESEARCH >>

Regenasure®
GLUCOSAMINE



MOST POPULAR NEWS

- 1** Herbal extract increases lifespan by almost a quarter, finds fly research
- 2** Probiotics have no benefit for IBS, finds new RCT data
- 3** Italy slashes maximum melatonin levels from 5mg per day to 1mg
- 4** Nestlé: 'Our animal testing has nothing to do with superfoods or health claims'
- 5** Timing is everything: Calcium and vitamin D supplements before exercise may aid bone responses

If you think you know
PHARMACHEM
It's time for another look.



Did you know we have a **fully integrated aloe vera production**

There are two main forms of vitamin K: phylloquinone, also known as phytonadione, (vitamin K1) which is found in green leafy vegetables such as lettuce, broccoli and spinach, and makes up about 90% of the vitamin K in a typical Western diet; and menaquinones (vitamins K2), which make up about 10% of Western vitamin K consumption and can be synthesized in the gut by the microflora.

which forms have higher bioavailability

Menaquinones (MK-n: with the n determined by the number of prenyl side chains) can also be found in the diet; MK-4 can be found in animal meat, MK-7, MK-8, and MK-9 are found in fermented food products like cheese, and natto is a rich source of MK-7.

Potential for Vitamin K2

Commenting on the study, Dan Murray from vitamin K supplier Xsto Solutions told NutraIngredients-USA that the study relies on an estimation of vitamin K intake from consumed food, and that this is further weakened when taking into account the extremely short half-life of K1 (1-2 hours).

"In general it's difficult to get the serum concentration of vitamin K1 above 1- 2 nmole/l, due to the short half-life, even after intake of 'RDI' doses," said Murray. "This doesn't negate the total value of consuming vitamin K1 in food or supplements but it means more frequent dosing or larger doses or both are need to try and reach higher measurable values.

"The benefit of vitamin K2 menaquinone-7 with its extended half-life vs K1 becomes more obvious when we start digging into this type of research," he said.

Murray added that, while this paper attempts to establish a correlation between Vit K and arterial calcification, this conflicts with prior data.

"The most significant finding in this study is the relation between the hypertension medication, Vit K1 intake and the progression of CAC. This is interesting and does warrant additional investigation, perhaps even with various forms and doses of Vit K supplementation rather than estimating food intake of Vitamin K1.

"In general, its challenging to conduct studies on the effects and correlations of Vit K1 due to its very short half-life. This presents a strong argument for Vitamin K2 MK7 supplementation (vs K1) where we can easily maintain longer serum levels of Vit K and better evaluate it benefits and associations to health conditions and medication interactions (both positive and negative).

"It's exciting to see new and interesting research on a Vitamin K. We've been supplementing with K for decades but we are just starting to have a much better appreciation for the benefits of the 'quinone' family of Vitamin K."

Study details

Led by Kyla Shea from Wake Forest School of Medicine, the researchers analyzed data from 296 people with extreme coronary artery calcium progression and compared this with data from 561 healthy controls. Blood samples were used to measure vitamin K1 levels.

Results showed that, in general, people extreme CAC progression were 34% more likely to have low vitamin K1 levels, compared with people without extreme CAC progression, but this result was not statistically significant, said the researchers.

A significant association between vitamin K1 levels and CAC in people taking anti-hypertension medication was observed.

"Low serum vitamin K1 was significantly associated with CAC progression in antihypertension medication users, which, to our knowledge, is a novel finding conditionally replicated by using an independent sample," said the researchers. "Intervention trials are needed to determine whether improving serum vitamin K1 reduces CAC progression, especially in hypertensives."

Source: [American Journal of Clinical Nutrition](#)

Published online ahead of print, doi: 10.3945/ajcn.112.056101

capability--from farming operations--to facilities that convert the leaves to powder or liquid forms for a variety of applications?



PHARMACHEM LABORATORIES

pharmachemlabs.com

201-246-1000 800-526-0609

KEY INDUSTRY EVENTS

Vitafoods Asia 2013

Lantau / Conference and exhibition

[read more](#)

04-Sep-2013

[Access all events listing](#)

PRODUCTS

LACIDOFIL®: Lallemand flagship probiotic blend supported by over 20 published clinical studies offers opportunities in specific health segments, "in" and "beyond" gut health
Lallemand Health Solutions

OatSweet® The Sweeter Nature of Oats
Pathway International

DHA Claims Capsules by Polaris
POLARIS

Pycnogenol® Improves Visible Signs of Aging
Horphag Research

Coating heat-sensitive products at ambient temperatures
Roquette Pharma

NEOBEE® MCTs Enhance Pharmaceutical Bioavailability
Stepan Lipid Nutrition

[View All Products](#)

On demand **Supplier Webinars**

TABLETTING: BOOST INNOVATION and PRODUCTION
Roquette

Differentiate your Omega 3 products with Croda
Croda

Probiotics: The Path to Better Digestive Health through Quality Clinical Trials
DuPont Nutrition & Health

[All supplier webinars](#)

TODAY'S HEADLINES



Autism linked to decreased microbe diversity in the gut: Study

Time is of the essence: Hit iron deficiency before it becomes chronic, warn researchers

"Association between circulating vitamin K1 and coronary calcium progression in community-dwelling adults: the Multi-Ethnic Study of Atherosclerosis"

Authors: M.K. Shea, S.L. Booth, M.E. Miller, G.L. Burke, H. Chen, M. Cushman, R.P. Tracy, S.B. Kritchevsky

Copyright - Unless otherwise stated all contents of this web site are © 2013 - William Reed Business Media SAS - All Rights Reserved - Full details for the use of materials on this site can be found in the [Terms & Conditions](#)



Which active ingredients in sugar-free gum are best for oral health?



WHO director-general slams industry involvement in health policy

Get more articles like this in your mailbox:

Your email

Sign up


RELATED PRODUCTS

 On-Demand Supplier Webinar

Differentiate your Omega 3 products with Croda - Croda

09-May-2013 - Omega 3's are growing rapidly in the Asia Pacific market. How can you ensure growth in this industry? Join Croda's Omega 3 experts as they demonstrate ways to differentiate your products targeting lifestyle solutions, rather than condition-specific solutions. To thank...

WATCH NOW!

 Technical / white paper

Effects of Food & Drink on Cognitive Performance - Leatherhead Food Research

06-May-2013 - The global functional foods market, which encompasses food and drink products that bear a specific health or physiological claim, grew rapidly between 2003 and 2011. Following this steep rise in product sales, strict legislation and guidelines have been put in...

DOWNLOAD NOW!

 Data sheet

Omega 3 Qualitysilver-Ubiquinol Licaps - POLARIS

07-May-2013 - Latest Polaris innovation: An exclusive formulation containing Omega 3 Marine oil Qualitysilver® & Ubiquinol QH, the "ready to use" form of CoQ10 for cardiovascular health at its best! Download the data sheet now!

DOWNLOAD NOW!

 Clinical study

Pycnogenol® Helps Reduce Metabolic Syndrome Risk Factors - Horphag Research (USA) Inc.

07-May-2013 - A clinical trial published in a recent online issue of Phytotherapy Research found natural supplement Pycnogenol® to be effective in helping to reduce health risk factors associated with metabolic syndrome. Nearly 90 percent of study participants who supplemented a healthy...

DOWNLOAD NOW!

 Case study

The Power of Phospholipid Omega-3s - Aker BioMarine

29-Apr-2013 - Superba™ Krill represents a new generation of omega-3 fatty acids that is different than traditional sources, and represents the fastest growing segment in the omega-3 category. Krill's unique phospholipid omega-3 composition provides increased bio-efficiency, superior tolerability and unique health benefits. ...

DOWNLOAD NOW!

 Product brochure

Naturecaps - HPMC Capsules - Brochure - ACG Worldwide

07-May-2013 - Naturecaps are high-performance HPMC (hydroxypropyl methylcellulose) capsules ideal for dietary supplement industry. Derived from 100% natural source, HPMC is a widely-used alternative for gelatin capsules. Available in natural colors and various sizes, these capsules ensure optimum delivery even for highly...

CRODA

Leatherhead
Food Research

polaris
NUTRITIONAL LIPIDS



ACG
Worldwide

RELATED SUPPLIERS

Ajinomoto NaturalSpecialities | Aker BioMarine | Beneo GmbH | BerryPharma | Biofortis | Buckton
Scott Deutschland GmbH | Cambridge Commodities | Croda | Faravelli Group | Fine Foods &
Pharmaceuticals N.T.M. S.p.A. | Flavourtech | Fortitech Inc. | Gee Lawson Ltd. | Glanbia
Nutritionals | Horphag Research | Indena | KinOmega Biopharm Inc. | KitoZyme | Milsing d.o.o. |
Natac | Network Nutrition | Nexira | POLARIS | PUREEXTRACT DRT | Prinova | Vitae Naturals |
Wild | ppm.Ingredients

WEEKLY / DAILY FREE NEWSLETTER

- FoodNavigator.com**
Food & Beverage Development - Europe
- FoodNavigator-USA.com**
Food & Beverage Development - North America
- FoodNavigator-Asia.com**
Food, Beverage & Supplement Development - Asia Pacific
- NutraIngredients.com**
Supplements & Nutrition - Europe
- NutraIngredients-USA.com**
Supplements & Nutrition - North America
- FoodProductionDaily.com**
Food Processing & Packaging
- FoodQualityNews.com**
Food Safety & Quality Control
- DairyReporter.com**
Dairy Processing & Markets
- BeverageDaily.com**
Beverage Technology & Markets
- ConfectioneryNews.com**
Confectionery & Biscuit Processing
- BakeryAndSnacks.com**
Industrial Baking & Snacks
- GlobalMeatNews.com**
Global Trading and Meat Processing
- FoodManufacture.co.uk**
The Information Resource for Food and Drink Processing

OTHER NEWSLETTERS

- Science & Nutrition Research
- Food legislation
- Food Finance
- Innovations in Food Ingredients
- Innovations in Food Processing and Packaging
- Innovations in Food Safety & Instrumentation
- Food Industry & Consumer Trends
- Food Marketing and Retailing

FREE E-MAIL ALERTS

- | | | | |
|--|--|--|---|
| <input type="checkbox"/> Antioxidants, carotenoids | <input type="checkbox"/> Cosmeceuticals | <input type="checkbox"/> Dairy-based ingredients | <input type="checkbox"/> Dosage forms |
| <input type="checkbox"/> Fibres and carbohydrates | <input type="checkbox"/> Minerals | <input type="checkbox"/> Nutritional lipids and oils | <input type="checkbox"/> Phytochemicals, plant extracts |
| <input type="checkbox"/> Probiotics and prebiotics | <input type="checkbox"/> Proteins, peptides, amino acids | <input type="checkbox"/> Soy-based ingredients | <input type="checkbox"/> Vitamins & premixes |
| <input type="checkbox"/> Bone & joint health | <input type="checkbox"/> Cancer risk reduction | <input type="checkbox"/> Cardiovascular health | <input type="checkbox"/> Cognitive and mental function |
| <input type="checkbox"/> Diabetes | <input type="checkbox"/> Energy & endurance | <input type="checkbox"/> Eye health | <input type="checkbox"/> Gut health |
| <input type="checkbox"/> Immune system | <input type="checkbox"/> Maternal & infant health | <input type="checkbox"/> Respiratory health | <input type="checkbox"/> Skin health |
| <input type="checkbox"/> Weight management | <input type="checkbox"/> Women's health | | |

Free subscription now!

RELATED SITES FROM OUR TEAM

Food & Beverage: Food & Beverage Development - Europe | Food & Beverage Development - North America | Food, Beverage & Supplement Development - Asia Pacific | Food Marketing and Retailing | Food and Beverage Processing and Packaging | Food Safety & Quality Control | Industrial Baking & Snacks | Beverage Technology & Markets | Confectionery & Biscuit Processing | Dairy Processing & Markets | Global Trading and Meat Processing | Food jobs - Europe **Nutrition:** Supplements & Nutrition - Europe | Supplements & Nutrition - North America **Pharmaceuticals:** Global Pharmaceutical Technology & Manufacturing | Contract Research, Manufacturing & Clinical Trials **Cosmetics:** Cosmetics Formulation & Packaging in North America | Cosmetics Formulation & Packaging in Europe | Cosmetics Formulation & Packaging in Asia-Pacific

[About us](#) | [Site map](#) | [All sites](#) | [Recommend this Site](#) | [Advertise](#) | [Contact the Editor](#) | [Terms & Conditions](#) | [Privacy and Cookie Policy](#)