

VIT K-DEPENDENT PROCESSES LINKED TO VASCULAR CALCIFICATION, OXIDATIVE STRESS AND FREE RADICAL DAMAGE: NEW PAPER PUBLISHED

NattoPharma participant in grant funding study once again links Vitamin K2 benefits against calcification and oxidative stress.

OSLO, NORWAY AND EDISON, NJ (24 JULY 2019) — *Arteriosclerosis, Thrombosis, and Vascular Biology* has published a new paper examining the well-known and alternative pathways of Vitamin K, adding to the substantial argument that Vitamin K2 can greatly impact cardiovascular health. The paper was funded by a grant awarded to NattoPharma's International Research Network by the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant.

"NattoPharma has a long history of funding research and participating in collaborative research such as was provided in the Horizon 2020 grant. The body of evidence supporting cardiovascular health benefits continues to grow and we believe will help expand both awareness and consumer demand for Vitamin K2," says CEO in NattoPharma, Kjetil Ramsøy.

Dr. Hogne Vik, NattoPharma Chief Medical Officer, explains; "According to at least five different epidemiological studies, Vitamin K2 – and not K1 – is cardio-protective. That is why the majority of new clinical trials, which are focused on cardiovascular health, are performed using K2 as MK-7. Moreover, Vitamin K2 was shown to be not only more potent form than Vitamin K1, but also the compound that possesses additional biological activity (not present in the case of K1)."

Aortic aneurysm is a vascular disease whereby the ECM (extracellular matrix) of a blood vessel degenerates, leading to dilation and eventually vessel wall rupture. Recently, it was shown that calcification of the vessel wall is involved in both the initiation and progression of aneurysms. To that end, the authors of the paper, "Role of Vascular Smooth Muscle Cell Phenotypic Switching and Calcification in Aortic Aneurysm Formation: Involvement of Vitamin K-Dependent Processes", summarize the current literature on vascular smooth muscle cell phenotypic switching and vascular calcification in relation to aneurysm. Moreover, they address the role of vitamin K and vitamin K-dependent proteins (VKDPs) that are involved in vascular calcification and aneurysm.

The review highlighted well-known and alternative pathways of vitamin K activity:

- Vitamin K is known to activate Matrix Gla Protein (MGP), by which it inhibits vascular calcification.
- Vitamin K has the ability to scavenge free radicals, reduce oxidative stress, and decrease vascular calcification.

"Therefore, it is tempting to postulate that vitamin K deficiency plays a role in aneurysm formation," the authors conclude. "Vitamin K supplementation holds the potential to lower the risk of aortic aneurysms and improve cardiovascular outcome."

The paper is significant because it continues to build upon the argument that Vitamin K2 is an essential nutrient for protecting cardiovascular health, while also opening up new areas of benefits, according to Dr. Vik.

"Once again, Vitamin K is known to activate MGP, which inhibits vascular calcification," says Vik. "This new paper also finds vitamin K has the ability to scavenge free radicals, reduce oxidative stress, and decrease calcification. We support the authors' supposition that Vitamin K deficiency plays a role in aneurysm formation. Clearly, Vitamin K2 supplementation holds the potential to lower the risk of aortic aneurysms and improve cardiovascular outcomes."

The review paper is the result of the Horizon 2020 grant awarded to NattoPharma's International Research Network, coordinated by Queen Mary University of London. Other partners of the network are four highly ranked research university departments in Europe [University of Maastricht, University College Dublin (part of the national University of Ireland), Ludwig-Maximilians-Universität München, and Karolinska Institutet in Stockholm] and the independent life science medical research charity in the UK, the Medical Research Council Technology. The grant NattoPharma participates in is called "EVoLuTION" (European Vascular Interventions and Therapeutic Innovation Network), and the money will be utilized to provide training for 11 early stage researchers (ESRs) in the management of chronic diseases in the field of cardiovascular disease.

Reference:

Petsophsakul P, Furmanik M, Forsythe R, Dweck M, Schurink GW, Natour E, Reutelingsperger C, Jacobs M, Mees B, Schurgers L. Role of Vascular Smooth Muscle Cell Phenotypic Switching and Calcification in Aortic Aneurysm Formation: Involvement of Vitamin K-Dependent Processes. Arterioscler Thromb Vasc Biol. 2019;39:00-00. DOI: 10.1161/ATVBAHA.119.312787.

[PR: NattoPharma Named Partner For EU Research Grant](#)

About NattoPharma and MenaQ7®

NattoPharma ASA, based in Norway, is the supplement industry world leader in vitamin K2 research and development. NattoPharma is the exclusive international supplier of MenaQ7® Vitamin K2 as MK-7, the best documented, vitamin K2 as menaquinone-7 (MK-7) with guaranteed actives and stability, clinical substantiation, and international patents granted and pending; and now the new MenaQ7® Full Spectrum, which delivers menaquinones 6, 7, and 9. The company has a multi-year research and development program to substantiate and discover the health benefits of Vitamin K2 for applications in the marketplace for functional food and dietary supplements, in addition to exclusive access to the research efforts of its pharmaceutical arm, Kaydence Pharma AS (est. 2017), outside of the pharmaceutical domain. With a global presence, the company established its North American subsidiary, NattoPharma USA, Inc., in Edison, NJ, and NattoPharma R&D Ltd. in Cyprus. For more information, visit www.nattopharma.com or www.menaq7.com.

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