

focus

The perfect match between prevention & comfort in menopause



Strong data support major benefits of combination therapy with Equol & Vitamin K2 in menopausal women.

Equol
> 2 x 1/day



Vit K2 (180 µg)
> 1/day

1_ Equol

Equol is obtained by fermentation of the Soy-isoflavone Daidzein.

Equol-producing bacteria have been reported in the microbiome of a part of our population. This observation led to the term Equol-producers to define those adults that could make equol in response to consuming soy isoflavones. Prevalence of the Equol-producer Phenotype is much higher in Asia.

Equol-producers
Predominantly
in Asia



Non-Equol-producers
Majority of population
in the Western World

Estrogen-receptor subtypes

The natural estrogen 17 β -estradiol (E2) binds to both ER- α and ER- β with similar high affinity. Equol is classified as a natural selective estrogen receptor modulator (SERM) on ER- β . This selective modulation may have the potential to achieve the beneficial effects of estrogens but avoid the unwanted side effects.

Epidemiologic studies show:

- Lower prevalence on cancer in Asian Equol-producers
- Different studies examined the relationship between Equol measures and risk of prostate-, colon- and breast-cancer

More indications, based on published studies:

- Reducing hot flushes in menopausal women
- Preventing reduction of bone mineral density in middle-aged women
- Lowering the incidence of cardiovascular disease in postmenopausal women by increasing the availability of Nitric Oxide
- Researched for its protective mechanism in cognitive decline & dementia

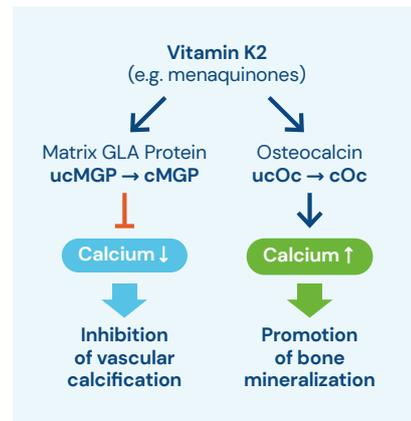
To achieve the goals referring to the published literature, pure Equol extracts have been used in oral supplementation.

2 _ Vitamin K2

The activation of matrix GLA proteins & osteocalcin requires Vit K2 as an essential co-factor.

Vit K2 is essential in bone-remodeling and prevention of arterial calcification.

Vit K2 needs to be delivered from food or by supplementation. The introduction of refrigerators reduced fermentation and Vit K2 status. Fermented foods like Natto are not very popular.



Studies show the effects of Vitamin K2 status on vascular health:

- **Local carotid stiffness & arterial stiffness both improved + dp-ucMGP decreased by 50%** (240 healthy postmenopausal women - 180 μ g during 3 years)

Naiyarakseree, Nuanjanthip et al. "Effect of Menaquinone-7 Supplementation on Arterial Stiffness in Chronic Hemodialysis Patients: A Multicenter Randomized Controlled Trial."

- **The progression of atherosclerosis was reduced:**

The increase of common carotid intima-media thickness (CCA-IMT) was significantly lower in the treated participants

Kurnatowska, Ilona et al. "Effect of vitamin K2 on progression of atherosclerosis and vascular calcification in nondialyzed patients with chronic kidney disease stages 3-5."

- **The increase in Coronary Artery Calcification Score (CACS) was slightly lower:**

We saw a significant reduce in dp-uc-MGP

Equol



indication	Fermented soy Activates Protective Estrogen Receptors-Beta Protective activity in hormonal issues, neurodegenerative brain conditions and aging
dosage	Take 2 x 1 caps per day
packaging	120 vegecaps per container
daily dose (based on 2 vegecaps)	Equol 12 mg

References

Equol



Setchell, K.D.; Brown, N.M.; Lydeking-Olsen, E. The clinical importance of the metabolite equol—a clue to the effectiveness of soy and its isoflavones. *J. Nutr.* 2002, 132, 3577–3584

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3900832/>

<https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/estrogen-receptor-beta>

Daily, J.W.; Ko, B.S.; Ryuk, J.; Liu, M.; Zhang, W.; Park, S. Equol Decreases Hot Flashes in Postmenopausal Women: A Systematic Review and Meta-Analysis of Randomized Clinical Trials. *J. Med. Food* 2019, 22, 127–139.

Yoshikata, R.; Myint, K.Z.Y.; Ohta, H. Effects of Equol Supplement on Bone and Cardiovascular Parameters in Middle-Aged Japanese Women: A Prospective Observational Study. *J. Altern. Complement. Med.* 2018, 24, 701–708.

<https://pubmed.ncbi.nlm.nih.gov/12726915/>

<https://pubmed.ncbi.nlm.nih.gov/36233223/>

Hong, K.W.; Ko, K.P.; Ahn, Y.; Kim, C.S.; Park, S.J.; Park, J.K.; Kim, S.S.; Kim, Y. Epidemiological profiles between equol producers and nonproducers: A genome-wide association study of the equol-producing phenotype. *Genes Nutr.* 2012, 7, 567–574

Akaza, H.; Miyanaga, N.; Takashima, N.; Naito, S.; Hirao, Y.; Tsukamoto, T.; Fujioka, T.; Mori, M.; Kim, W.J.; Song, J.M.; et al. Comparisons of percent equol producers between prostate cancer patients and controls: Case-controlled studies of isoflavones in Japanese, Korean and American residents. *Jpn. J. Clin. Oncol.* 2004, 34, 86–89.

Duncan, A.M.; Merz-Demlow, B.E.; Xu, X.; Phipps, W.R.; Kurzer, M.S. Premenopausal equol excretors show plasma hormone profiles associated with lowered risk of breast cancer. *Cancer Epidemiol. Biomark. Prev.* 2000, 9, 581–586.

Hod, Rafidah et al. “A Systematic Review of the Effects of Equol (Soy Metabolite) on Breast Cancer.” *Molecules* (Basel, Switzerland) vol. 26,4 1105. 19 Feb. 2021, doi:10.3390/molecules26041105

Rigalli, Juan Pablo et al. “The phytoestrogens daidzein and equol inhibit the drug transporter BCRP/ABCG2 in breast cancer cells: potential chemosensitizing effect.” *European journal of nutrition* vol. 58,1 (2019): 139–150. doi:10.1007/s00394-017-1578-9

Charalambous, Christiana et al. “Equol enhances tamoxifen’s anti-tumor activity by induction of caspase-mediated apoptosis in MCF-7 breast cancer cells.” *BMC cancer* vol. 13 238. 15 May. 2013, doi:10.1186/1471-2407-13-238

Lampe, Johanna W. “Emerging research on equol and cancer.” *The Journal of nutrition* vol. 140,7 (2010): 1369S–72S. doi:10.3945/jn.109.118323

Vitamin K2



indication	Essential cofactor for the activation of osteocalcin and Matrix GLA protein Prevention and treatment of osteoporosis and arteriosclerosis
dosage	Take 1 - 2 tablets per day Take Vit K2 with food to ensures the optimal release of bile and pancreatic enzymes, required for the absorption of fat-soluble vitamins
packaging	60 tablets per container
daily dose (based on 1 tablet)	Vitamin K2 180 µg

References

Vitamin K2



Crosier MD, Booth SL, Peter I, et al. Matrix Gla protein polymorphisms are associated with coronary artery calcification in men. *J Nutr Sci Vitaminol (Tokyo)*. 2009;55(1):59-65. doi:10.3177/jnsv.55.59

Murshed, Monzur, et al. "Extracellular matrix mineralization is regulated locally; different roles of two gla-containing proteins." *The Journal of cell biology* 165.5 (2004): 625-630.

Khavandgar, Zohreh et al. "Elastin haploinsufficiency impedes the progression of arterial calcification in MGP-deficient mice." *Journal of bone and mineral research: the official journal of the American Society for Bone and Mineral Research* vol. 29,2 (2014): 327-37. doi:10.1002/jbmr.2039

<https://pubmed.ncbi.nlm.nih.gov/9076586/>

<https://pubmed.ncbi.nlm.nih.gov/36033779/>

<https://pubmed.ncbi.nlm.nih.gov/17012108/>