

PRODUCT INFORMATION



Menaquinone 7

Item No. 10011051

CAS Registry No.: 2124-57-4
Formal Name: 2-[(2E,6E,10E,14E,18E,22E)-3,7,11,15,19,23,27-heptamethyl-2,6,10,14,18,22,26-octacosaeptaen-1-yl]-3-methyl-

Synonyms: MK-7, Vitamin K₂(35), Vitamin MK-7

MF: C₄₆H₆₄O₂

FW: 649.0

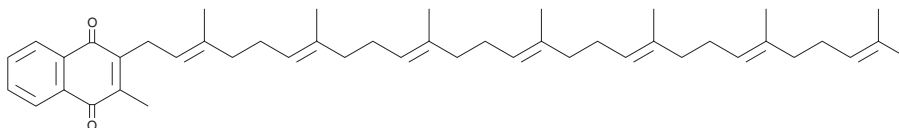
Purity: ≥98%

UV/Vis.: λ_{max}: 248, 270, 330 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Description

Menaquinone 7 (MK-7) is a vitamin K₂ analog that has been found in a variety of fermented foods.¹ It increases osteocalcin, osteoprotegerin, and RANKL mRNA expression in osteoblastic MC3T3E cells. MK-7 (1 μM) increases alkaline phosphatase activity and calcium content in femoral-metaphyseal tissues isolated from normal and skeletal-unloaded rats.² *In vivo*, MK-7 (100 μg/g diet) inhibits aortic and myocardial calcification and decreases aortic alkaline phosphatase tissue concentrations in a rat model of extraosseous calcification.³ It also increases trabecular number, bone mineral density, and bone mineral content in a rat model of ovariectomy-induced bone loss.⁴

References

1. Katsuyama, H., Otsuki, T., Tomita, M., *et al.* Menaquinone-7 regulates the expressions of osteocalcin, OPG, RANKL and RANK in osteoblastic MC3T3E1 cells. *Int. J. Mol. Med.* **15**(2), 231-236 (2005).
2. Ehara, Y., Takahashi, H., Hanahisa, Y., *et al.* Effect of vitamin K₂ (menaquinone-7) on bone metabolism in the femoral-metaphyseal tissues of normal and skeletal-unloaded rats: Enhancement with zinc. *Res. Exp. Med. (Berl.)* **196**(3), 171-178 (1996).
3. Scheiber, D., Veulemans, V., Horn, P., *et al.* High-dose menaquinone-7 supplementation reduces cardiovascular calcification in a murine model of extraosseous calcification. *Nutrients* **7**(8), 6991-7011 (2015).
4. Wu, W.-J., Lee, H.-Y., Lee, G.-H., *et al.* The antiosteoporotic effects of *Cheonggukjang* containing vitamin K₂ (menaquinone-7) in ovariectomized rats. *J. Med. Food* **17**(12), 1298-1305 (2014).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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