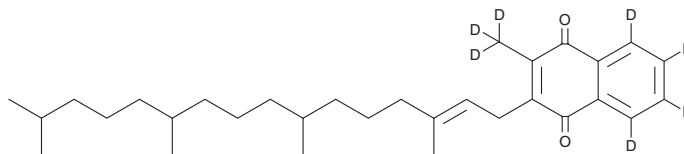


PRODUCT INFORMATION



Vitamin K₁-d₇ Item No. 29992

CAS Registry No.: 1233937-39-7
Formal Name: 2-(methyl-d₃)-3-[(2E)-3,7,11,15-tetramethyl-2-hexadecen-1-yl]-1,4-naphthalenedione-5,6,7,8-d₄
Synonyms: α-Phylloquinone-d₇,
trans-Phylloquinone-d₇
MF: C₃₁H₃₉D₇O₂
FW: 457.7
Chemical Purity: ≥95% (Vitamin K₁)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₇); ≤1% d₀
Supplied as: An oil
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Vitamin K₁-d₇ is intended for use as an internal standard for the quantification of vitamin K₁ (Item No. 21051) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Vitamin K₁-d₇ is supplied as an oil. A stock solution may be made by dissolving the vitamin K₁-d₇ in the solvent of choice, which should be purged with an inert gas. Vitamin K₁-d₇ is slightly soluble in chloroform and ethyl acetate.

Description

Vitamin K₁ is a fat-soluble, dietary nutrient that is essential for the synthesis of proteins important for blood-clotting, bone metabolism, and cell growth.¹ It is found in the photosynthetic tissues of green, leafy plants, where it acts as an electron acceptor forming part of the electron transport chain of Photosystem I.² Vitamin K₁ also serves as a precursor to vitamin K₂ and is reported to exhibit anticancer activity in various cell lines.^{3,4}

References

1. Plaza, S.M. and Lamson, D.W. Vitamin K2 in bone metabolism and osteoporosis. *Altern. Med. Rev.* **10**(1), 24-35 (2005).
2. Santabarbara, S., Heathcote, P., and Evans, M.C.W. Modelling of the electron transfer reactions in Photosystem I by electron tunnelling theory: The phylloquinones bound to the PsaA and the PsaB reaction centre subunits of PS I are almost isoenergetic to the iron-sulfur cluster FX. *Biochim. Biophys. Acta.* **1708**(3), 283-310 (2005).
3. Beulens, J.W.J., Booth, S.L., van den Heuvel, E.G.H.M., et al. The role of menaquinones (vitamin K₂) in human health. *Br. J. Nutr.* **110**(8), 1357-1368 (2013).
4. Lamson, D.W. and Plaza, S.M. The anticancer effects of vitamin K. *Altern. Med. Rev.* **8**(3), 303-318 (2003).

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.

WARRANTY AND LIMITATION OF REMEDY

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