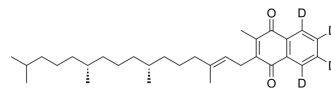


Vitamin K1-d4

Cat. No.:	HY-N0684S1
CAS No.:	5172-18-9
Molecular Formula:	C ₃₁ H ₄₂ D ₄ O ₂
Molecular Weight:	454.72
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Vitamin K1-d4 (Phylloquinone-d4) is the deuterium labeled Vitamin K1. Vitamin K1 a naturally occurring vitamin required for blood coagulation and bone and vascular metabolism ^[1] .
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019;53(2):211-216.
- [2]. Basset GJ, et al. Phylloquinone (Vitamin K1): Occurrence, Biosynthesis and Functions. *Mini Rev Med Chem*. 2016 Jun 22.
- [3]. Orlando A, et al. Vitamin K1 exerts antiproliferative effects and induces apoptosis in three differently graded human colon cancer cell lines. *Biomed Res Int*. 2015;2015:296721.
- [4]. Ibarrola-Jurado N, et al. Dietary phylloquinone intake and risk of type 2 diabetes in elderly subjects at high risk of cardiovascular disease. *Am J Clin Nutr*. 2012 Nov;96(5):1113-8.
- [5]. Kim M, et al. Vitamin K1 (phylloquinone) and K2 (menaquinone-4) supplementation improves bone formation in a high-fat diet-induced obese mice. *J Clin Biochem Nutr*. 2013 Sep;53(2):108-13.
- [6]. Hemmati AA, et al. Topical vitamin K1 promotes repair of full thickness wound in rat. *Indian J Pharmacol*. 2014 Jul-Aug;46(4):409-12.

Caution: Product has not been fully validated for medical applications. For research use only.

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