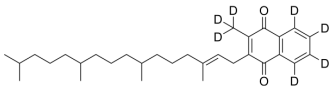
Vitamin K1-d_7

Cat. No.:	HY-N0684S
CAS No.:	1233937-39-7
Molecular Formula:	$C_{31}H_{39}D_7O_2$
Molecular Weight:	457.74
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	-20°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMF : ≥ 25 mg/mL (54.62 mM)
Ethanol : ≥ 25 mg/mL (54.62 mM)
DMF : ≥ 25 mg/mL (54.62 mM)
DMSO : ≥ 25 mg/mL (54.62 mM)
DMSO : ≥ 25 mg/mL (54.62 mM)
Ethanol : ≥ 25 mg/mL (54.62 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.1846 mL	10.9232 mL	21.8465 mL
5 mM	0.4369 mL	2.1846 mL	4.3693 mL
10 mM	0.2185 mL	1.0923 mL	2.1846 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Vitamin K1-d_7 is the deuterium labeled Vitamin K1. Vitamin K1 a naturally occurring vitamin required for blood coagulation and bone and vascular metabolism[1][2].

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.

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[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.

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