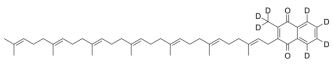
Menaquinone-7-d7

Cat. No.:	HY-112499S
CAS No.:	1233937-31-9
Molecular Formula:	$C_{46}H_{57}D_7O_2$
Molecular Weight:	656.04
Target:	Isotope-Labeled Compounds
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Menaquinone-7-d_7 is the deuterium labeled Menaquinone-7. Menaquinone-7 (Vitamin K2-7), belongs to a class of K2-vitamin homologs, is originally discovered as the anti-hemorrhagic factors[1]. Menaquinone-7 (Vitamin K2-7) is identified as the most bioactive cofactor for the carboxylation reaction of Gla-proteins [2]. Supplementation with Menaquinone-7 (Vitamin K2-7) is a pharmacological option for activating matrix Gla protein and intervening in the progression of calcific aortic valve stenosis (CAVS)[3].
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]. Thijssen, H H., et al., 1994. Vitamin K distribution in rat tissues: dietary phylloquinone is a source of tissue menaquinone-4. The British journal of nutrition. 72(3): 415-25.

[3]. Conly, J M., et al., 1994. The contribution of vitamin K2 (menaquinones) produced by the intestinal microflora to human nutritional requirements for vitamin K. The American journal of gastroenterology. 89(6): 915-23.

[4]. Peeters FECM, et al. Bicuspid Aortic Valve Stenosis and the Effect of Vitamin K2 on Calcification Using 18F-Sodium Fluoride Positron Emission Tomography/Magnetic Resonance: The BASIK2 Rationale and Trial Design. Nutrients. 2018 Mar 21;10(4). pii: E386.

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