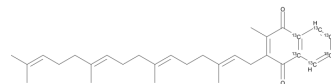


Menaquinone-4-¹³C₆

Cat. No.:	HY-B2156S1
Molecular Formula:	C ₂₅ ¹³ C ₆ H ₄₀ O ₂
Molecular Weight:	450.6
Target:	Endogenous Metabolite; Isotope-Labeled Compounds
Pathway:	Metabolic Enzyme/Protease; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Menaquinone-4- ¹³ C ₆ is the ¹³ C-labeled Menaquinone-4. Menaquinone-4 is a vitamin K, used as a hemostatic agent, and also a adjunctive therapy for the pain of osteoporosis.
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]. Noda S, et al. Menaquinone-4 (vitamin K2) up-regulates expression of human intestinal alkaline phosphatase in Caco-2 cells. *Nutr Res.* 2016 Nov;36(11):1269-1276.
- [3]. 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.

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

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