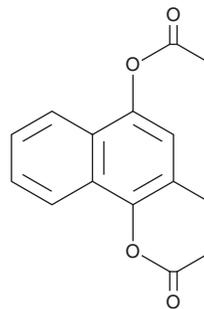


PRODUCT INFORMATION



Vitamin K₄ Item No. 33970

CAS Registry No.: 573-20-6
Formal Name: 2-methyl-1,4-diacetate-1,4-naphthalenediol
Synonyms: Acetomenaphthone, Menadiol diacetate, NSC 403062, Vitamin K diacetate
MF: C₁₅H₁₄O₄
FW: 258.3
Purity: ≥98%
UV/Vis.: λ_{max}: 226 nm
Supplied as: A solid
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 K₄ is supplied as a solid. A stock solution may be made by dissolving the vitamin K₄ in the solvent of choice, which should be purged with an inert gas. Vitamin K₄ is soluble in the organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of vitamin K₄ in these solvents is approximately 1 mg/ml in ethanol and approximately 30 mg/ml in DMSO and DMF.

Description

Vitamin K₄ is a synthetic form of vitamin K and the diacetate form of the provitamin vitamin K₃ (Item No. 15950).^{1,2} It inhibits proliferation of PC3 prostate cancer cells (IC₅₀ = 20.94 μM).² Vitamin K₄ (20 and 40 μM) induces cell cycle arrest at the S phase and mitochondrial apoptosis in PC3 cells. It inhibits canonical and non-canonical activation of the NOD-like receptor protein 3 (NLRP3) inflammasome in mouse bone marrow-derived macrophages (BMDMs) when used at a concentration of 5 μM.¹ Vitamin K₄ (4 mg/kg) decreases the production of IL-1β and peritoneal neutrophil infiltration in a mouse model of monosodium urate-induced NLRP3-dependent peritonitis.

References

1. Zheng, X., Hou, Y., He, H., *et al.* Synthetic vitamin K analogs inhibit inflammation by targeting the NLRP3 inflammasome. *Cell Mol. Immunol.* (2020).
2. Jiang, Y., Yang, J., Yang, C., *et al.* Vitamin K₄ induces tumor cytotoxicity in human prostate carcinoma PC-3 cells via the mitochondria-related apoptotic pathway. *Pharmazie* **68**(8), 442-448 (2013).

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.

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