

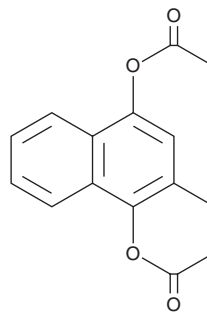
# PRODUCT INFORMATION



## Vitamin K<sub>4</sub>

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:** C<sub>15</sub>H<sub>14</sub>O<sub>4</sub>  
**FW:** 258.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 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 K<sub>4</sub> is supplied as a solid. A stock solution may be made by dissolving the vitamin K<sub>4</sub> in the solvent of choice, which should be purged with an inert gas. Vitamin K<sub>4</sub> is soluble in the organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of vitamin K<sub>4</sub> in these solvents is approximately 1 mg/ml in ethanol and approximately 30 mg/ml in DMSO and DMF.

### Description

Vitamin K<sub>4</sub> is a synthetic form of vitamin K and the diacetate form of the provitamin vitamin K<sub>3</sub> (Item No. 15950).<sup>1,2</sup> It inhibits proliferation of PC3 prostate cancer cells (IC<sub>50</sub> = 20.94 μM).<sup>2</sup> Vitamin K<sub>4</sub> (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.<sup>1</sup> Vitamin K<sub>4</sub> (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 K<sub>4</sub> 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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