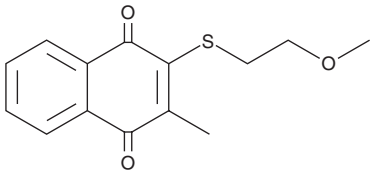
PRODUCT INFORMATION

VK_3-OCH_3

Item No. 21476

CAS Registry No.: 255906-59-3
Formal Name: 2-[(2-methoxyethyl)thio]-3-methyl-1,4-naphthalenedione
Synonyms: Vitamin K_3-OCH_3
MF: $C_{14}H_{14}O_3S$
FW: 262.3
Purity: ≥98%
UV/Vis.: λ_{max}: 257 nm
Supplied as: A crystalline 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

VK_3-OCH_3 is supplied as a crystalline solid. A stock solution may be made by dissolving the VK_3-OCH_3 in the solvent of choice, which should be purged with an inert gas. VK_3-OCH_3 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of VK_3-OCH_3 in these solvents is approximately 5, 25, and 30 mg/ml, respectively.

VK_3-OCH_3 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, VK_3-OCH_3 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. VK_3-OCH_3 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

VK_3-OCH_3 is an analog of vitamin K_3 (Item No. 15950) that that has antiproliferative activities *in vitro*.[1] It preferentially decreases proliferation of IMR-32, LA-N-1, NB-39, and SK-N-SH neuroblastoma cells (IC_{50}s = 2.43, 1.55, 10.69, and 3.45 µM, respectively) compared with non-cancerous HUVEC and HDF cells (IC_{50}s = 26.24 and 87.11 µM, respectively). It increases heme oxygenase-1 (HO-1) and caveolin-1 levels, induces apoptosis, and halts the cell cycle at the G_2/M phase in IMR-32 cells. VK_3-OCH_3 also inhibits protein-tyrosine phosphorylase (PTPase) activity (IC_{50} = 57.2 µM in a cell-free assay), induces protein-tyrosine phosphorylation in Hep3B hepatoma cells when used at a concentration of 50 µM, and inhibits the growth of Hep3B cells (IC_{50} = 8.6 µM).[2]

References

1. Kitano, T., Yoda, H., Tabata, K., *et al.* Vitamin K_3 analogs induce selective tumor cytotoxicity in neuroblastoma. *Biol. Pharm. Bull.* **35(4)**, 617-623 (2012).
2. Nishikawa, Y., Wang, Z., Kerns, J., *et al.* Inhibition of hepatoma cell growth *in vitro* by arylating and non-arylating K vitamin analogs. Significance of protein tyrosine phosphatase inhibition. *J. Biol. Chem.* **274(49)**, 34803-34810 (1999).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM