

Menadione

Chemical Properties

CAS No. : 58-27-5

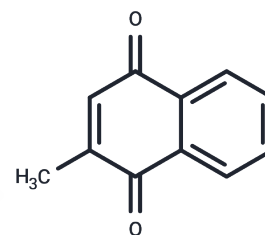
Formula: C₁₁H₈O₂

Molecular Weight: 172.18

Storage: Keep away from direct sunlight, Keep away from moisture

Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Menadione (Vitamin K3) is a synthetic naphthoquinone without the isoprenoid side chain and biological activity, but can be converted to active vitamin K2, menaquinone, after alkylation in vivo.
Targets(IC50)	Endogenous Metabolite,Thrombin
In vivo	In AR4-2J cells, Menadione (1-20 mM) inhibits cell proliferation in a dose- and time-dependent manner. In the RALA255-10G rat liver cell line, Menadione activates extracellular signal-regulated kinase and c-Jun N-terminal kinase. Furthermore, Menadione suppresses multidrug-resistant leukemia cell lines (IC ₅₀ =13.5 mM) and primary leukemia cell lines (IC ₅₀ =18 mM). At 100 mM, Menadione induces DNA fragmentation, leading to rapid cell death. Additionally, in normal pancreatic acinar cells, Menadione inhibits mitochondrial Ca(2+) uptake.

Solubility Information

Solubility	Ethanol: 32 mg/mL (185.85 mM),Sonication is recommended. DMSO: 64.4 mg/mL (374.03 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (11.62 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.8079 mL	29.0394 mL	58.0788 mL
5 mM	1.1616 mL	5.8079 mL	11.6158 mL
10 mM	0.5808 mL	2.9039 mL	5.8079 mL
50 mM	0.1162 mL	0.5808 mL	1.1616 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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