

Monomethyl fumarate

Chemical Properties

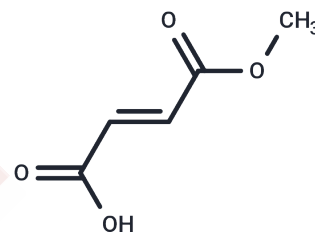
CAS No. : 2756-87-8

Formula: C₅H₆O₄

Molecular Weight: 130.1

Storage: 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	Monomethyl fumarate is a potent agonist of GPR109A .
Targets(IC50)	Drug Metabolite,GPCR
In vitro	Monomethyl fumarate (25 μM; 24 hours) attenuates 7β-OHC-induced cytotoxicity: cell growth inhibition; decreased cell viability; mitochondrial dysfunction; and cell death induction[3].

Solubility Information

Solubility	DMSO: 55 mg/mL (422.75 mM),Sonication is recommended. H ₂ O: 8.06 mg/mL (61.95 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 (15.37 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	7.6864 mL	38.432 mL	76.864 mL
5 mM	1.5373 mL	7.6864 mL	15.3728 mL
10 mM	0.7686 mL	3.8432 mL	7.6864 mL
50 mM	0.1537 mL	0.7686 mL	1.5373 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

Tang H, et al. The psoriasis drug monomethylfumarate is a potent nicotinic acid receptor agonist. *Biochem Biophys Res Commun.* 2008 Oct 31;375(4):562-5.

Jiang D, et al. Monomethyl Fumarate Protects the Retina From Light-Induced Retinopathy. *Invest Ophthalmol Vis Sci.* 2019 Mar 1;60(4):1275-1285.

Sghaier R, et al. Dimethyl fumarate and monomethyl fumarate attenuate oxidative stress and mitochondrial alterations leading to oxiaoptophagy in 158N murine oligodendrocytes treated with 7 β -hydroxycholesterol. *J Steroid Biochem Mol Biol.* 2019 Nov;194:105432.

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