Data Sheet (Cat.No.T21367)

TargetMol

Tetrahydrofolic acid

Chemical Properties

CAS No. :	135-16-0
Formula:	C19H23N7O6
Molecular Weight:	445.43
Storage:	Store under nitrogen,Keep away from direct sunlight, Store at low temperature Powder: -20°C for 3 years Actual storage temperature shall be subject to the COA.

Biological Description

Description	Tetrahydrofolic acid (5,6,7,8-tetrahydrofolic acid) is a vitamin B9 derivative that is a common one-carbon donor in organisms and is involved in growth and metabolism.
Targets(IC50)	Endogenous Metabolite
In vitro	In Adh5-/- DT40 cells, Tetrahydrofolic acid (0-200 μM; 3 days) resulted in a rapid drop in cell viability[1].
In vivo	In Adh5-/- mice, Tetrahydrofolic acid (62.5 mg/kg; intraperitoneal injection; daily) resulted in disrupted hematopoiesis, increased phosphorylation of Ser139-H2AX, and decreased survival of hematopoietic stem and progenitor cells (HSPCs)[1].

Solubility Information

Solubility	DMSO: 4.46 mg/mL (10.01 mM),Sonication is recommended. H2O: 1 mg/mL (2.25 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: 1 mg/mL (2.25 mM),Sonication is recommended. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.245 mL	11.2251 mL	22.4502 mL
5 mM	0.449 mL	2.245 mL	4.490 mL
10 mM	0.2245 mL	1.1225 mL	2.245 mL
50 mM	0.0449 mL	0.2245 mL	0.449 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

Clara B García-Calderón, et al. Genotoxicity of Tetrahydrofolic Acid to Hematopoietic Stem and Progenitor Cells. Cell Death Differ. 2018 Nov;25(11):1967-1979.
Lin RL,et al. Tetrahydrofolic acid: an inhibitor of the methyltetrahydrofolic acid-mediated methylation of indolethylamines. Biochim Biophys Acta. 1975 Apr 7;385(2):268-74.
Zhang M,et al. The Second Class of Tetrahydrofolate (THF-II) Riboswitches Recognizes the Tetrahydrofolic Acid Ligand via Local Conformation Changes. Int J Mol Sci. 2022 May 25;23(11):5903.
Natsuhori M,et al. Tetrahydrofolic acid as the principal congener of plasma folates in pigs. Am J Physiol. 1991 Jul; 261(1 Pt 2):R82-6.