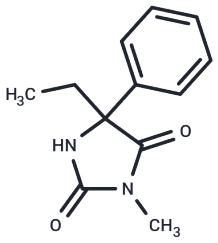
Data Sheet (Cat.No.T21425)

TargetMol

Mephenytoin

Chemical Properties



CAS No. : 50-12-4

Formula: C12H14N2O2

Molecular Weight: 218.25

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	Mephenytoin (Phenantoin) is an anticonvulsant and a substrate of CYP2C19 and CYP2B6.
Targets(IC50)	Cytochromes P450

Solubility Information

Solubility	DMSO: 125 mg/mL (572.74 mM),Sonication is recommended. H2O: Insoluble, (< 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 (9.16 mM),Sonication is recommended. 10% DMSO+90% Saline: 10 mg/mL (45.82 mM),Solution. *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	4.5819 mL	22.9095 mL	45.819 mL
5 mM	0.9164 mL	4.5819 mL	9.1638 mL
10 mM	0.4582 mL	2.291 mL	4.5819 mL
50 mM	0.0916 mL	0.4582 mL	0.9164 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

Vijayabhaskar V, Srivastava P, Rajagopal S. Breaking the sensitivity limitations of cytochrome P450 oxidation product: dansyl chloride derivatisation of 4-OH mephenytoin, a CYP2C19 metabolite and its application to in vitro CYP inhibition assay. J Chromatogr B Analyt Technol Biomed Life Sci. 2015 May 1;989:27-36.
Wang H, et al. Evaluation of the effects of 20 nonsynonymous single nucleotide polymorphisms of CYP2C19 on S-mephenytoin 4'-hydroxylation and omeprazole 5'-hydroxylation. Drug Metab Dispos. 2011 May;39(5):830-7.
Lee SJ, et al. Identification of new CYP2C19 variants exhibiting decreased enzyme activity in the metabolism of S-mephenytoin and omeprazole. Drug Metab Dispos. 2009 Nov;37(11):2262-9.
Klaassen T, et al. Assessment of urinary mephenytoin metrics to phenotype for CYP2C19 and CYP2B6 activity. Eur J Clin Pharmacol. 2008 Apr;64(4):387-98. Epub 2007 Dec 11.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481