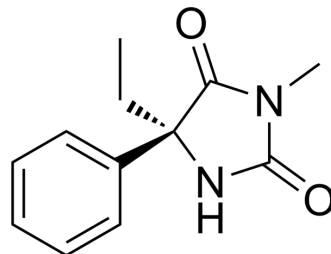


(S)-Mephenytoin

Cat. No.:	HY-B1184A	
CAS No.:	70989-04-7	
Molecular Formula:	C ₁₂ H ₁₄ N ₂ O ₂	
Molecular Weight:	218.25	
Target:	Cytochrome P450	
Pathway:	Metabolic Enzyme/Protease	
Storage:	Powder	-20°C 3 years
	In solvent	-80°C 6 months
		-20°C 1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 66.67 mg/mL (305.48 mM; ultrasonic and warming and heat to 60°C)			
		Solvent	Mass	
		Concentration	1 mg	5 mg
	Preparing Stock Solutions	1 mM	4.5819 mL	22.9095 mL
		5 mM	0.9164 mL	4.5819 mL
	10 mM	0.4582 mL	2.2910 mL	4.5819 mL
Please refer to the solubility information to select the appropriate solvent.				
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 6 mg/mL (27.49 mM); Clear solution			
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 6 mg/mL (27.49 mM); Clear solution			
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 6 mg/mL (27.49 mM); Clear solution			

BIOLOGICAL ACTIVITY

Description	(S)-Mephenytoin ((+)-Mephenytoin) is an anticonvulsive agent. (S)-Mephenytoin is a substrate of the cytochrome P450 (CYP) isoform CYP2C19. (S)-Mephenytoin can be used for the analysis of cytochrome P450 metabolism ^{[1][2]} .
IC₅₀ & Target	CYP2
In Vitro	In the presence of cytochrome b5, the K _m for S-mephenytoin is 1.25 mM with all five purified cytochrome P-450s preparations ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Shimada T, et, al. Human liver microsomal cytochrome P-450 mephenytoin 4-hydroxylase, a prototype of genetic polymorphism in oxidative drug metabolism. Purification and characterization of two similar forms involved in the reaction. J Biol Chem. 1986 Jan 15;261(2):909-21.
- [2]. Goldstein JA, et, al. Evidence that CYP2C19 is the major (S)-mephenytoin 4'-hydroxylase in humans. Biochemistry. 1994 Feb 22;33(7):1743-52.
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Caution: Product has not been fully validated for medical applications. For research use only.

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