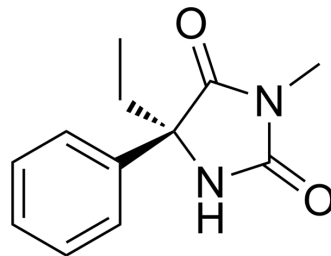


(S)-Mephenytoin

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 Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	4.5819 mL	22.9095 mL	45.8190 mL
		5 mM	0.9164 mL	4.5819 mL	9.1638 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	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 6 mg/mL (27.49 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 6 mg/mL (27.49 mM); Clear solution 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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