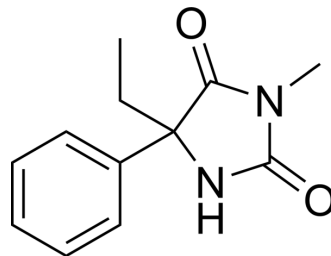


Mephenytoin

Cat. No.:	HY-B1184		
CAS No.:	50-12-4		
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
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 50 mg/mL (229.10 mM; Need ultrasonic and warming)				
		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: ≥ 2.5 mg/mL (11.45 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (11.45 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (11.45 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	Mephenytoin, an anticonvulsant, is the CYP2C19 and CYP2B6 substrate ^[1] .
IC₅₀ & Target	CYP2
In Vivo	Mephenytoin (orally administration, 100 mg/kg, 200 mg/kg) can reduce maternal weight gain and increase offspring mortality at 200 mg/kg but not produce excessive offspring mortality at 100 mg/kg in Pregnant Sprague-Dawley CD rats ^[2] . Mephenytoin (i.p., 20 mg/kg per day for 16 days) significantly reduces serum cholesterol and triglyceride levels in mice,

which may have a hypolipidemic effect^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Med. 2023 Dec 29:S2666-6340(23)00402-6.

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REFERENCES

- [1]. D R Minck, et al. Comparison of the behavioral teratogenic potential of phenytoin, mephenytoin, ethotoin, and hydantoin in rats. *Teratology*. 1991 Apr;43(4):279-93.
- [2]. J H Maguire, et al. Hypolipidemic activity of antiepileptic 5-phenylhydantoins in mice. *Eur J Pharmacol*. 1985 Oct 29;117(1):135-8.
- [3]. Klaassen T, et al. Assessment of urinary mephenytoin metrics to phenotype for CYP2C19 and CYP2B6 activity. *Eur J Clin Pharmacol*. 2008;64(4):387-398.
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Caution: Product has not been fully validated for medical applications. For research use only.

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