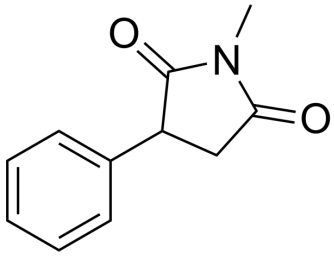
Phensuximide

Cat. No.:	HY-B1730		
CAS No.:	86-34-0		
Molecular Formula:	$C_{11}H_{11}NO_2$		
Molecular Weight:	189.21		
Target:	Others		
Pathway:	Others		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (528.51 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	5.2851 mL	26.4257 mL	52.8513 mL
	5 mM	1.0570 mL	5.2851 mL	10.5703 mL
	10 mM	0.5285 mL	2.6426 mL	5.2851 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Phensuximide is an orally active succinimide antiepileptic and anticonvulsant agent. Phensuximide inhibits cyclic AMP and cyclic GMP accumulation in depolarized brain tissue. Phensuximide can be used for the study of seizure and petit mal[1][3].

IC_{50} & Target

IC50: cyclic AMP and cyclic GMP accumulation[2]

In Vitro

Phensuximide produce depolarization-induced accumulation of cyclic GMP or cyclic AMP levels with ID_{50} values of 8.00 mM or 6.20 mM in incubated slices of mouse cerebral cortex[2].

Phensuximide (0.5-2.0 mM) has the ability to competitively inhibit mephenytoin 4-hydroxylase activity in human liver microsomes, the K_i and K_m values are 559 μM and 235 μM, respectively[4].

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

In Vivo

Phensuximide (intraperitoneal injection; 1.25 mmol/kg; single dose) induces mild changes in renal function, including: trace hematuria, increased proteinuria and decreased paminohippurate uptake in Sprague-Dawley rats[1].

Phensuximide (intraperitoneal injection; 0.3 or 0.6 mmol/kg; 5-7 days) results in transient hematuria and proteinuria, but no change in the other renal function parameters studied. It is concluded that phensuximide produces mild, transient renal

effects in Fischer 344 rats, and that the Fischer 344 rat is a suitable model for studying phensuximide-induced toxicity to the urinary tract[1].

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

Animal Model:	Fischer 344 rats[1]
Dosage:	0.3 or 0.6 mmol/kg
Administration:	Intraperitoneal injection; 5-7 days
Result:	Induced urotoxicity following daily administration for 5-7 days in Fischer 344 rats.

CUSTOMER VALIDATION

- Cell Metab. 2022 Feb 7;34(3):424-440.e7.

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REFERENCES

[1]. G O Rankin, et al. Urinary Tract Effects of Phensuximide in the Sprague-Dawley and Fischer 344 Rat. J Appl Toxicol. . 1986 Oct;6(5):349-56.

[2]. J A Ferrendelli, et al. Inhibitory Effects of Anticonvulsant Drugs on Cyclic Nucleotide Accumulation in Brain. Ann Neurol. 1979 Jun;5(6):533-8.

[3]. J G MILLICHAP, et al. Milontin: A New Drug in the Treatment of Petit Mal.Lancet. 1952 Nov 8;2(6741):907-10.

[4]. S D Hall,et al. Characterization and inhibition of mephenytoin 4-hydroxylase activity in human liver microsomes. The JOURNAL OP PHARMAcOLOGY AND EXPERIMENTAL THERAPEUTICS

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