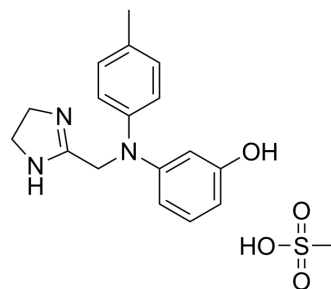


Phentolamine mesylate

Cat. No.:	HY-B0362A
CAS No.:	65-28-1
Molecular Formula:	C ₁₈ H ₂₃ N ₃ O ₄ S
Molecular Weight:	377.46
Target:	Adrenergic Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : ≥ 50 mg/mL (132.46 mM) * "≥" means soluble, but saturation unknown.																					
	<table border="1"> <thead> <tr> <th rowspan="2">Solvent</th> <th rowspan="2">Mass</th> <th colspan="3">Concentration</th> </tr> <tr> <th>1 mg</th> <th>5 mg</th> <th>10 mg</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Preparing Stock Solutions</td> <td>1 mM</td> <td>2.6493 mL</td> <td>13.2464 mL</td> <td>26.4929 mL</td> </tr> <tr> <td>5 mM</td> <td>0.5299 mL</td> <td>2.6493 mL</td> <td>5.2986 mL</td> </tr> <tr> <td>10 mM</td> <td>0.2649 mL</td> <td>1.3246 mL</td> <td>2.6493 mL</td> </tr> </tbody> </table>	Solvent	Mass	Concentration			1 mg	5 mg	10 mg	Preparing Stock Solutions	1 mM	2.6493 mL	13.2464 mL	26.4929 mL	5 mM	0.5299 mL	2.6493 mL	5.2986 mL	10 mM	0.2649 mL	1.3246 mL	2.6493 mL
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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: PBS Solubility: 100 mg/mL (264.93 mM); Clear solution; Need ultrasonic Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (6.62 mM); Clear solution 																					

BIOLOGICAL ACTIVITY

Description	Phentolamine mesylate (Phentolamine methanesulfonate) is a reversible, non-selective, and orally active blocker of α ₁ and α ₂ adrenergic receptor that expands blood vessels to reduce peripheral vascular resistance. Phentolamine mesylate can be used for the research of pheochromocytoma-related hypertension, heart failure and erectile dysfunction ^{[1][2][3]} .
IC₅₀ & Target	α adrenergic receptor
In Vitro	Phentolamine (0.1-1 μM) inhibits the response to Clonidine in rat ileum, with the pA ₂ and pK _B of 7.92 and 8.07, respectively [3]. ?Phentolamine (10-70 μg/mL; 48 h) inhibits proliferation of HDMECs and HBMECs in a dose-dependent manner, with IC ₅₀ s of 50 μg/mL and 30 μg/mL without toxicity, respectively ^[4] .

?Phentolamine (10-20 or 20-40 µg/mL; 12-48 h) significantly delays scratch wound closure of HBMECs and HDMECs in a dose-dependent manner^[4].

?Phentolamine (30 or 50 µg/mL; 4-12 h) inhibits tube formation of HBMECs and HDMECs^[4].

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

In Vivo

Phentolamine (1 mg/kg; i.v.) produces hypotension and tachycardia in rats^[4].

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

CUSTOMER VALIDATION

- Neurosci Bull. 2023 Jun 19.
- J Endocrinol. 2020 Mar;244(3):459-471.

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REFERENCES

[1]. Gould L, et, al. Phentolamine. Am Heart J. 1976 Sep;92(3):397-402.

[2]. Goldstein I, et, al. Oral phentolamine: an alpha-1, alpha-2 adrenergic antagonist for the treatment of erectile dysfunction. Int J Impot Res. 2000 Mar;12 Suppl 1:S75-80.

[3]. Liu L, et, al. Evidence for functional alpha 2D-adrenoceptors in the rat intestine. Br J Pharmacol. 1996 Mar;117(5):787-92.

[4]. Pan L, et, al. Phentolamine inhibits angiogenesis in vitro: Suppression of proliferation migration and differentiation of human endothelial cells. Clin Hemorheol Microcirc. 2017;65(1):31-41.

[5]. Fioretti AC, et, al. Renal and femoral venous blood flows are regulated by different mechanisms dependent on α -adrenergic receptor subtypes and nitric oxide in anesthetized rats. Vascul Pharmacol. 2017 Dec;99:53-64.

Caution: Product has not been fully validated for medical applications. For research use only.

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