Phentolamine mesylate

Cat. No.: HY-B0362A

CAS No.: 65-28-1

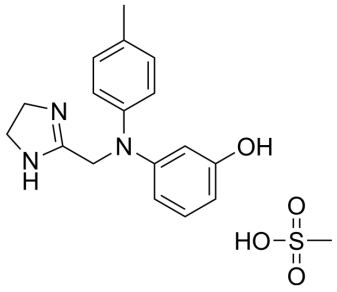
Molecular Formula: $C_{18}H_{23}N_3O_4S$

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_2O : ≥ 50 mg/mL (132.46 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
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

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (264.93 mM); Clear solution; Need ultrasonic
2. 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 α1 and α2 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].

IC_{50} & 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) signi?cantly 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.

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