Guanethidine sulfate

Cat. No.: HY-B0800

CAS No.: 645-43-2

Molecular Formula: $C_{10}H_{24}N_4O_4S$

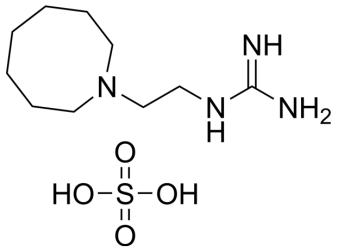
Molecular Weight: 296.39

Target: Others

Pathway: Others

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (337.39 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.3739 mL	16.8697 mL	33.7393 mL
5 mM	0.6748 mL	3.3739 mL	6.7479 mL
10 mM	0.3374 mL	1.6870 mL	3.3739 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 (337.39 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Guanethidine sulfate (Guanethidine monosulfate) ia an antihypertensive agents. Guanethidine is also an adrenergic neurone blocking agent, enters noradrenergic nerve terminals by the neuronal amine carrier[1][2].

In Vivo

Guanethidine (5-40 mg/kg; intraperitoneal injection; daily; for 4-28 days; male Wistar rats) treatment for 28 days by 40 mg/kg results in an incomplete sympathectomy accompanied by a partially irreversible hypersensitivity to noradrenaline, whereas 5 mg/kg does not induce histological or permanent haemodynamic changes[3].

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

Animal Model:	Male Wistar rats (approximately 200 g)[3]
Dosage:	5 mg/kg or 40 mg/kg
Administration:	Intraperitoneal injection; daily; for 4, 8, 14, or 28 days

Result:	Lowered the blood pressure by 40 mg/kg, the decrease being reversible on discontinuation. The hypersensitivity was partly reversible on discontinuation, but a significantly increased sensitivity of the heart rate to noradrenaline was observed 60 days after discontinuation by 40 mg/kg for 28 days. Histologically a profound loss of nerve cells of the superior cervical ganglion was observed by 40 mg/kg.

CUSTOMER VALIDATION

- Authorea. September 19, 2022.

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REFERENCES

[1]. Mitchell JR, et al. Antagonism of the antihypertensive action of guanethidine sulfate by desipramine hydrochloride. JAMA. 1967 Dec 4;202(10):973-6.

[2]. Fabiani ME, et al. Inhibition of sympathetic noradrenergic transmission by guanabenz and guanethidine in rat isolated mesenteric artery: involvement of neuronal potassium channels. Pharmacol Res. 1996 Mar;33(3):171-80.

[3]. Nielsen GD. Guanethidine induced sympathectomy in the adult rat. I. Functional effects following subacute administration. Acta Pharmacol Toxicol (Copenh). 1977 Sep;41(3):203-8.

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