Pipecuronium bromide

Cat. No.: HY-B0743A

CAS No.: 52212-02-9

Molecular Formula: $C_{35}H_{62}Br_2N_4O_4$

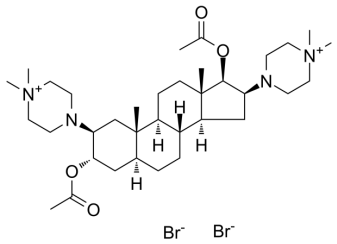
Molecular Weight: 762.7

Target: nAChR

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling

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

DMSO : 150 mg/mL (196.67 mM; Need ultrasonic)

H_2O : 100 mg/mL (131.11 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.3111 mL	6.5557 mL	13.1113 mL
5 mM	0.2622 mL	1.3111 mL	2.6223 mL
10 mM	0.1311 mL	0.6556 mL	1.3111 mL

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

BIOLOGICAL ACTIVITY

Description

Pipecuronium bromide is a potent long-acting nondepolarizing steroidal neuromuscular blocking agent (NMBA), and a bisquaternary ammonium compound. Pipecuronium bromide is a powerful competitive nAChR antagonist with a Kd of 3.06 μM[1][2][3][4][5].

IC_{50} & Target

nAChR[4][5]

In Vitro

Sugammadex has a high affinity for Pipecuronium bromide. As Pipecuronium bromide is about 6 to 7 times more potent than Rocuronium, fewer molecules are required to achieve a comparative blockade than in the case of Rocuronium[1].

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

In Vivo

The average ED_{95} is 0.045mg/kg (0.035-0.059 mg/kg) of Pipecuronium bromide, the onset of action varies between 2 and 6.3 minutes, depending on the dose and the background anesthesia. Pipecuronium bromide does not liberate histamine, it has no cardiovascular side effects even in doses of 3× ED_{95}, and anaphylaxis does not appear to be a problem[2].

Carboxymethylated γ-cyclodextrin shows efficient and complete reversal of the Pipecuronium bromide induced neuromuscular block in an ex vivo rat diaphragm experiment[3].

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

REFERENCES

[1]. Tassonyi E, et al. Reversal of Pipecuronium-Induced Moderate Neuromuscular Block with Sugammadex in the Presence of a Sevoflurane Anesthetic: A Randomized Trial. Anesth Analg. 2015 Aug;121(2):373-80.

[2]. Tassonyi E, et al. Reversal of Deep Pipecuronium-Induced Neuromuscular Block With Moderate Versus Standard Dose of Sugammadex: A Randomized, Double-Blind, Noninferiority Trial. Anesth Analg. 2018 Dec;127(6):1344-1350.

[3]. Alánt O, et al. First clinical experience with a new neuromuscular blocker pipecurium bromide. Arzneimittelforschung. 1980;30(2a):374-9.

[4]. Töröcsik A, et al. Characterization of somatodendritic neuronal nicotinic receptors located on the myenteric plexus. Eur J Pharmacol. 1991 Sep 24;202(3):297-302.

[5]. Kárpáti E, et al. Investigation of neuromuscular blocking agents at Richter Ltd. Acta Pharm Hung. 2002;72(1):37-48.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA