Mivacurium dichloride

Cat. No.: HY-B1700A

CAS No.: 106861-44-3

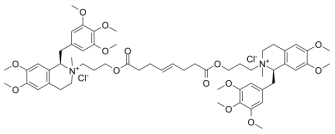
Molecular Formula: $C_{58}H_{80}Cl_2N_2O_{14}$

Molecular Weight: 1100.17

Target: nAChR

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling

Storage: 4°C, stored under nitrogen, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (227.24 mM; Need ultrasonic)

H_2O : ≥ 100 mg/mL (90.90 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	0.9090 mL	4.5448 mL	9.0895 mL
5 mM	0.1818 mL	0.9090 mL	1.8179 mL
10 mM	0.0909 mL	0.4545 mL	0.9090 mL

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

BIOLOGICAL ACTIVITY

Description

Mivacurium dichloride is a benzylisoquinoline derivative and is a short-acting non-depolarizing neuromuscular blocking agent and skeletal muscle relaxant. Mivacurium dichloride couples with the nAChR to reduce or inhibit the depolarizing effect of acetylcholine on the terminal disc of the muscle cell[1][2][3].

In Vitro

Mivacurium induces LAD2 cell degranulation in a dose-dependent manner. Mivacurium stimulates intracellular Ca^{2+} influx in MRGPRX2-HEK293 cells but not in NC-HEK293 cells. Mivacurium induces the release of only low levels of mediators in LAD2 cells transfected with MRGPRX2-targeted small interfering siRNA[1].

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

In Vivo

Mivacurium causes pseudo-allergic reactions in C57 wild-type mice by inducing mast cells to release histamine and a decrease in body temperature[1].

Mivacurium is rapidly hydrolyzed in the plasma and has a short duration of action (< 10 min). Mivacurium has many advantages, such as a rapid effect, nonneurological toxicity and a lack of heart rate alteration[1].

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

REFERENCES

[1]. Delu Che, et al. Mivacurium Induce Mast Cell Activation and Pseudo-Allergic Reactions via MAS-related G Protein Coupled receptor-X2. Cell Immunol. 2018 Oct;332:121-128.

[2]. J E Caldwell. New Skeletal Muscle Relaxants. Int Anesthesiol Clin. Winter 1995;33(1):39-60.

[3]. Matthias Paul, et al. The Potency of New Muscle Relaxants on Recombinant Muscle-Type Acetylcholine Receptors. Anesth Analg. 2002 Mar;94(3):597-603; table of contents.

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