SZABO SCANDIC

Part of Europa Biosite

Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

Medetomidine hydrochloride

Cat. No.: HY-17034B

CAS No.: 86347-15-1

Molecular Formula: $C_{13}H_{17}ClN_2$

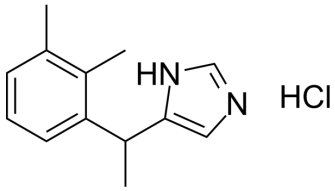
Molecular Weight: 236.74

Target: Adrenergic Receptor

Pathway: GPCR/G Protein; 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 : 100 mg/mL (422.40 mM; Need ultrasonic)

Ethanol : 100 mg/mL (422.40 mM; Need ultrasonic)

H_2O : ≥ 50 mg/mL (211.20 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Mass / Solvent / Concentration	1 mg	5 mg	10 mg
1 mM	4.2240 mL	21.1202 mL	42.2404 mL
5 mM	0.8448 mL	4.2240 mL	8.4481 mL
10 mM	0.4224 mL	2.1120 mL	4.2240 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (10.56 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (10.56 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (10.56 mM); Clear solution
4. Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (10.56 mM); Clear solution
5. Add each solvent one by one: 10% EtOH >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (10.56 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Medetomidine hydrochloride is an orally active α2-adrenoceptor agonist (K_i: 1.08 nM). Medetomidine hydrochloride has

	sedative and analgesic effects. Medetomidine hydrochloride can cause peripheral vasoconstriction through the activation of α2 adrenoceptors on blood vessels[1][2][3][4].
IC_{50} & Target	α2-adrenergic receptor 1.08 nM (Ki) α1-adrenergic receptor 1750 nM (Ki)
In Vitro	Medetomidine (0-1 μM, 1 h) hydrochloride inhibits aldosterone release from the adrenocortical cell suspension[7]. Medetomidine (10 nM) hydrochloride activates a kicking response in Cyprids[8]. Medetomidine (1 μM) hydrochloride increases cellular cAMP production by activating β-like receptors in CHO cells[8]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Medetomidine (200 μg/kg, p.o. or i.m.) hydrochloride induces a sedation in cats[4]. Medetomidine (20 μg/kg, i.v.) hydrochloride shows sedative and analgesic effects in dogs[5]. Medetomidine (0.05-0.3 mg/kg, s.c.) hydrochloride protects against Diazinon-induced toxicosis in mice[6]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Diazinon (75 mg/kg, orally)-induced toxicosis in mice[6]
Dosage:	0.05, 0.1 and 0.3 mg/kg
Administration:	Subcutaneous injection (s.c.), 15 min before Diazinon.
Result:	Protected the mice from the toxicity induced by Diazinon. Decreased the occurrence of Straub tail, excessive salivation and tremor. Increased the latencies to onset of tremor and death when compared with control.

Animal Model:	Dogs[5]
Dosage:	20 μg/kg
Administration:	Intravenous injection (i.v.)
Result:	Showed sedative and analgesic effects.Increased in SAP, MAP, DAP, MPAP, PCWP, CVP, SVR, PVR, core body temperature. Decreased in HR, CO, CI, SV, SI, RR, pH.

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

[2]. Kallio A, et al. Acute effects of medetomidine, a selective alpha 2-adrenoceptor agonist, on anterior pituitary hormone and cortisol secretion in man. Acta Endocrinol (Copenh). 1988 Sep;119(1):11-5.

[3]. R Virtanen, et al. Characterization of the selectivity, specificity and potency of medetomidine as an a2-adrenoceptor agonist.

[4]. O. B. Ansah, et al. Comparing oral and intramuscular administration of medetomidine in cats.

[5]. Kuo WC, et al. Comparative cardiovascular, analgesic, and sedative effects of medetomidine, medetomidine-hydromorphone, and medetomidine-butorphanol in dogs. Am J Vet Res. 2004 Jul;65(7):931-7.

[6]. Yakoub LK, et al. Medetomidine protection against diazinon-induced toxicosis in mice. Toxicol Lett. 1997 Sep 19;93(1):1-8.

[7]. Jager LP, et al. Effects of atipamezole, detomidine and medetomidine on release of steroid hormones by porcine adrenocortical cells in vitro. Eur J Pharmacol. 1998 Apr 3;346(1):71-6.

[8]. Ulrika Lind, et al. Octopamine receptors from the barnacle balanus improvisus are activated by the alpha2-adrenoceptor agonist medetomidine.

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