Alniditan dihydrochloride

Cat. No.: HY-101698B

CAS No.: 155428-00-5

Molecular Formula: $C_{17}H_{28}Cl_2N_4O$

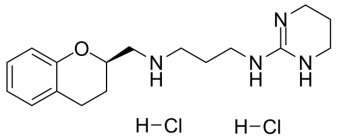
Molecular Weight: 375.34

Target: 5-HT 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 : 62.5 mg/mL (166.52 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6643 mL	13.3213 mL	26.6425 mL
	5 mM	0.5329 mL	2.6643 mL	5.3285 mL
	10 mM	0.2664 mL	1.3321 mL	2.6643 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: ≥ 2.08 mg/mL (5.54 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.54 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.54 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Alniditan (Alnitidan) dihydrochloride is a potent 5-HT_{1B} and 5-HT_{1D} receptors agonist, with IC_{50}s of 1.7 nM and 1.3 nM for h5-HT_{1B} and h5-HT_{1D} receptors in HEK 293 cells, respectively. Alniditan dihydrochloride has migraine-preventive effects[1][2].

IC_{50} & Target				
	human 5-HT_{1B} Receptor 1.7 nM (IC_{50})	human 5-HT_{1D} Receptor 1.3 nM (IC_{50})	5-HT_{1B} Receptor 0.9 nM (Kd)	5-HT_{1D} Receptor 1.2 nM (Kd)

In Vitro

In vitro, Alniditan exhibits little vasoconstrictive effects on the rat basilar artery, although at a very high concentration 1 mM, Alniditan causes intensive constriction, most likely through a mechanism independent from 5-HT receptor activation[1].

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

In Vivo	The intraperitoneal administration of Alniditan ED_{50}=9 μg/kg dose dependly reduces [^{125}I]-BSA extravasation in the rat meninges when done 30 min before stimulation. Alniditan dose dependently attenuateds the neurogenic inflammation in vivo model of neurogenic inflammation[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Limmroth V, et al. Effects of alniditan on neurogenic oedema in the rat dura mater and on contraction of rat basilar artery. Eur J Pharmacol. 1999 Oct 8;382(2):103-9.

[2]. Lesage AS, et al. Agonistic properties of alniditan, sumatriptan and dihydroergotamine on human 5-HT1B and 5-HT1D receptors expressed in various mammalian cell lines. Br J Pharmacol. 1998 Apr;123(8):1655-65.

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