

Alniditan

Chemical Properties

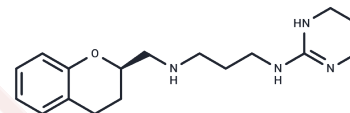
CAS No. : 152317-89-0

Formula: C₁₇H₂₆N₄O

Molecular Weight: 302.41

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Alniditan is a receptors agonist of 5-HT _{1B/1D} in HEK 293 cells (IC ₅₀ : 1.7 and 1.3 nM). For 5-HT _{1B/1D} receptors, the pK _i values are 8.96 and 9.40, respectively.
Targets(IC ₅₀)	5-HT Receptor
In vitro	Alniditan is 10 times more potent than sumatriptan at the h5-HT _{1B} receptor, and twice as potent at the h5-HT _{1D} receptor[3]. 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].
In vivo	Alniditan (3, 10, 30 and 100 µg/kg) produces a dose-dependent increase in the arteriovenous oxygen saturation difference, which seems to be attenuated in animals treated with GR127935. Alniditan also produces significant increases in vascular conductance to the skin, ear, bone, salivary gland, fat, tongue, brain and dura mater; no changes are observed in the muscles and eyes[2]. Alniditan dose-dependently decreases total carotid and arteriovenous anastomotic blood flow and concomitant conductance values; nutrient blood flow and conductance increase. The intraperitoneal administration of alniditan ED ₅₀ =9 µg/kg and sumatriptan ED ₅₀ =70 µg kg dose dependently reduces [125I]-BSA extravasation in the rat meninges when done 30 min before stimulation. The estimated ED values for alniditan are 9 µg/kg in the absence and 190 µg/kg in the presence of GR 127935[1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.3068 mL	16.5338 mL	33.0677 mL
5 mM	0.6614 mL	3.3068 mL	6.6135 mL
10 mM	0.3307 mL	1.6534 mL	3.3068 mL
50 mM	0.0661 mL	0.3307 mL	0.6614 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

- 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.
- De Vries P, et al. The antimigraine agent alniditan selectively constricts porcine carotid arteriovenous anastomoses via 5-HT_{1B/1D} receptors. *Eur J Pharmacol.* 1998 Jun 19;351(2):193-201.
- Lesage AS, et al. Agonistic properties of alniditan, sumatriptan and dihydroergotamine on human 5-HT_{1B} and 5-HT_{1D} receptors expressed in various mammalian cell lines. *Br J Pharmacol.* 1998 Apr;123(8):1655-65.

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