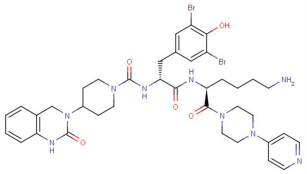
Data Sheet (Cat.No.T12293L)

TargetMol
A DRUG SCREENING EXPERT

Olcegepant

Chemical Properties



CAS No.:	204697-65-4
Formula:	C38H47Br2N9O5
Molecular Weight:	869.65
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	Olcegepant is an effective and selective non-peptide calcitonin gene-related peptide 1 (CGRP1) receptor antagonist (IC50 of 0.03 nM and Ki of 14.4 pM for human CGRP).
Targets(IC_{50})	CGRP1: 0.03 nM hCGRP: (ki) 14.4 pM
In vitro	Olcegepant is extremely effective at primate CGRP receptors exhibiting an affinity (Ki) for human CGRP receptors of 14.4±6.3 (n=4) pM. Olcegepant possesses a higher affinity for the human CGRP receptor than the endogenous ligand CGRP and 150-fold higher affinity compared to the peptidic antagonist CGRP8-37. CGRP induces a concentration-dependent relaxation that is antagonized by Olcegepant in a competitive manner. Olcegepant reverses CGRP-mediated vasodilation in human cerebral vessels and inhibits neurogenic vasodilation in a surrogate animal model of migraine pathophysiology. Several lines of evidence suggest that a calcitonin-gene related peptide (CGRP) receptor antagonist may serve as a novel abortive migraine treatment. Olcegepant shows competitive antagonism at the CGRP receptor present in SK-N-MC cells. Isolated human cerebral, coronary, and omental arteries are studied with a sensitive myograph technique[1][2][3].
In vivo	Pre-treatment with Olcegepant (900 μg/kg) inhibits the capsaicin-induced expression of Fos throughout the spinal trigeminal nucleus by 57%. The expression of the phosphorylated extracellular signal-regulated kinase in the trigeminal ganglion is not changed by Olcegepant pre-treatment. Olcegepant in doses between 1 and 30 μg/kg (i.v.) suppresses the effects of CGRP, released by stimulation of the trigeminal ganglion, on facial blood flow in marmoset monkeys. Olcegepant (0.3 to 0.9 mg/kg, i.v.) markedly decreases mechanical allodynia in CCI-ION rats. Olcegepant (0.6 mg/kg, i.v.) significantly decreases the number of c-Fos immunolabeled cells in the spinal nucleus of the trigeminal nerve and upregulation of ATF3 transcript (a marker of neuron injury) but not that of interleukin-6 in the trigeminal ganglion of CCI-ION rats [2][4][5].

Solubility Information

Solubility	DMSO: 50 mg/mL (57.49 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.15 mL	5.749 mL	11.499 mL
5 mM	0.23 mL	1.15 mL	2.3 mL
10 mM	0.115 mL	0.575 mL	1.15 mL
50 mM	0.023 mL	0.115 mL	0.23 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Rudolf K, et al. Development of human calcitonin gene-related peptide (CGRP) receptor antagonists. 1. Potent and selective small molecule CGRP antagonists. 1-[N2-[3,5-dibromo-N-[[4-(3,4-dihydro-2(1H)-oxoquinazolin-3-yl)-1-piperidinyl]carbonyl]-D-tyrosyl]-l-lysyl]-4-(4-pyridinyl)piperazine: the first CGRP antagonist for clinical trials in acute migraine. J Med Chem. 2005 Sep 22;48(19):5921-31.
2. Doods H, et al. Pharmacological profile of BIBN4096BS, the first selective small molecule CGRP antagonist. Br J Pharmacol. 2000 Feb;129(3):420-3.
3. Edvinsson L, et al. Effect of the CGRP receptor antagonist BIBN4096BS in human cerebral, coronary and omentalarteries and in SK-N-MC cells. Eur J Pharmacol. 2002 Jan 2;434(1-2):49-53.
4. Sixt ML, et al. Calcitonin gene-related peptide receptor antagonist Olcegepant acts in the spinal trigeminal nucleus. Brain. 2009 Nov;132(Pt 11):3134-41.
5. Michot B, et al. Differential effects of calcitonin gene-related peptide receptor blockade by Olcegepant on mechanical allodynia induced by ligation of the infraorbital nerve vs the sciatic nerve in the rat. Pain. 2012 Sep;153(9):1939-48.

Tel:781-999-4286 E-mail:info@targetmol.com Address:36 Washington Street,Wellesley Hills,MA 02481