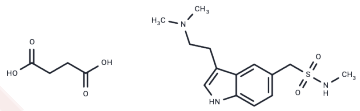
Data Sheet (Cat.No.T0203)

TargetMol

Sumatriptan succinate

Chemical Properties



CAS No. : 103628-48-4

Formula: C18H27N3O6S

Molecular Weight: 413.49

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	Sumatriptan succinate (GR 43175), a serotonin1 (5-HT1) receptor agonist, is used in the acute treatment of a migraine headache.
Targets(IC50)	5-HT Receptor
In vitro	Sumatriptan is rapidly cleared through metabolism and renal elimination, with a half-life of 1-2 hours. It rarely produces adverse effects when administered acutely, except for dogs exhibiting low tolerance to high doses. Clinically, subcutaneous injection of Sumatriptan at 100 mg/kg notably decreases injury-induced and contralateral mechanical allodynia in a rat model of trigeminal neuropathic pain (peak effects at 6.3g and 4.4g, respectively). In cats, Sumatriptan reduces the number of Fos-positive cells in the caudal part of the spinal trigeminal nucleus (I, IIO, and C2) following mechanical stimulation (to 6, 13, and 9 cells, respectively). The compound's biological activity varies across species, with 37%, 23%, and 58% in rats, rabbits, and dogs, respectively. Sumatriptan selectively constricts cranial blood vessels, which are dilated and inflamed during migraines, mediated by the 5-HT1 receptor subtype in animal cranial vasculature.
In vivo	Sumatriptan significantly reduces plasma protein-induced extravasation triggered by electrical stimulation of the trigeminal nerve. It mitigates morphological changes in the capillaries within the dura mater and small veins in the presence of hypertrophied mast cells stimulated at the trigeminal ganglion. Sumatriptan has a slightly lower affinity for the serotonin receptor 1A binding site (KI=100 nM), while exhibiting the highest affinity for 5HT (Ki=17 nM) and 5HT1B receptor binding sites (Ki=27 nM).

Solubility Information

Solubility	DMSO: 55 mg/mL (133.01 mM),Sonication is recommended. H2O: 41.4 mg/mL (100.12 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (4.84 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may*

In vivo Formulation	*vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4184 mL	12.0922 mL	24.1844 mL
5 mM	0.4837 mL	2.4184 mL	4.8369 mL
10 mM	0.2418 mL	1.2092 mL	2.4184 mL
50 mM	0.0484 mL	0.2418 mL	0.4837 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

Peroutka SJ, et al. Eur J Pharmacol, 1989, 163(1), 133-136.
Buzzi MG, et al. Cephalalgia, 1991, 11(4), 165-168.
Kayser V, et al. Br J Pharmacol, 2002, 137(8), 1287-1297.
Hoskin KL, et al. Brain, 1996, 119 (Pt 5), 1419-1428.
Humphrey PP, et al. Eur Neurol, 1991, 31(5), 282-290.