Casopitant mesylate

Cat. No.: HY-14405A

CAS No.: 414910-30-8

Molecular Formula: $C_{31}H_{39}F_7N_4O_5S$

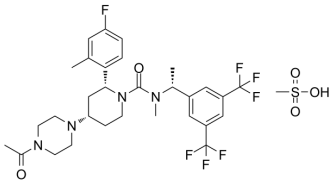
Molecular Weight: 712.72

Target: Neurokinin Receptor; Cytochrome P450

Pathway: GPCR/G Protein; Neuronal Signaling; Metabolic Enzyme/Protease

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 : 33.33 mg/mL (46.76 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.4031 mL	7.0154 mL	14.0308 mL
	5 mM	0.2806 mL	1.4031 mL	2.8062 mL
	10 mM	0.1403 mL	0.7015 mL	1.4031 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: ≥ 0.71 mg/mL (1.00 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.71 mg/mL (1.00 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.71 mg/mL (1.00 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Casopitant mesylate (GW679769B) is a potent, selective, brain permeable and orally active neurokinin 1 (NK1) receptor antagonist. Casopitant mesylate is a second in the class of antiemetics that acts to antagonise the emetogenic effect of substance P. Casopitant mesylate is also a substrate and a weak-to-moderate inhibitor of CYP3A4. Casopitant mesylate can be used for chemotherapy-induced nausea and vomiting (CINV) and postoperative nausea and vomiting (PONV)[1][2].

IC_{50} & Target	NK1	CYP3A4

In Vivo

In a ferret-model of Cisplatin- induced emesis, Casopitant (GW679769) inhibits retching and vomiting and reduced nausea-like behaviours in a dose-dependent manner. The pharmacokinetics and brain penetration of casopitant are studied in the

ferret-model of cisplatin-induced emesis. Following a single intraperitoneal dose, radioactive labeled Casopitant ([^{14}C]Casopitant) is rapidly absorbed, with plasma and brain concentrations being approximately equal at two hours post-dosing. [^{14}C]Casopitant is found in the brain as the parent compound and two major oxidative metabolites (M1 and M2), accounting for approximately 76%, 19%, and 3% of the radioactivity, respectively; suggesting that the pharmacologic activity of Casopitant in the ferret is largely attributable to the parent compound. Casopitant possesses a high affinity for brain NK1 receptors in the ferret[2].

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

REFERENCES

[1]. Ruhlmann C, et al. Casopitant: a novel NK(1)-receptor antagonist in the prevention of chemotherapy-induced nausea and vomiting. Ther Clin Risk Manag. 2009 Apr;5(2):375-84.

[2]. Minthorn E, et al. Pharmacokinetics and brain penetration of casopitant, a potent and selective neurokinin-1 receptor antagonist, in the ferret. Drug Metab Dispos. 2008 Sep;36(9):1846-52.

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