

Adenosine receptor inhibitor 1

Chemical Properties

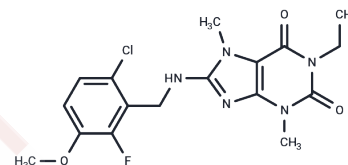
CAS No. : 2550400-52-5

Formula: C17H19ClFN5O3

Molecular Weight: 395.82

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	Adenosine receptor inhibitor 1 is a highly potent and selective antagonist of adenosine receptor (AR), exhibiting exceptional affinity for A1 AR, A2A AR, A2B AR, and A3 AR, with respective K_i values of >1000, 68.5, >1000, >1000 nM. This compound demonstrates notable antinociceptive, anti-inflammatory, and peripheral analgesic properties, holding great promise for investigating cancer and neurodegenerative diseases [1].
Targets(IC50)	Others, Adenosine Receptor
In vitro	Compound 12d, an adenosine receptor inhibitor, demonstrates metabolic stability with 96.56% and 97.97% of the parent compound remaining after a 120-minute incubation with mouse liver microsomes (MLMs) and rat liver microsomes (RLMs), respectively [1].
In vivo	Adenosine receptor inhibitor 1 administered intraperitoneally (i.p.) at doses of 20, 30, 40 mg/kg demonstrated concentration-dependent antinociceptive effects, reducing the pain response in animal models. Specifically, at a 20 mg/kg dose, it exhibited an anti-inflammatory effect, reducing edema in a carrageenan-induced model, and at doses of 5, 10, 20 mg/kg, it showed significant analgesic effects in mice, reducing pain from peripheral sources. In an 18-26 g male albino Swiss mouse model with chronic pain induced by 5% formalin, doses of 20, 30, 40 mg/kg decreased the licking/biting time of the irritated paw. In 150-180 g male Wistar rats experiencing carrageenan-induced edema, a 20 mg/kg dose inhibited edema by 23.3%, 54.2%, and 66.0% over 1, 2, and 3 hours, respectively. Furthermore, in mice injected with irritants such as phenylbenzoquinone or acetic acid to induce pain, doses of 5, 10, 20 mg/kg led to a decrease in pain manifestations by 32.9%, 54.9%, and 82.0%, respectively.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5264 mL	12.632 mL	25.264 mL
5 mM	0.5053 mL	2.5264 mL	5.0528 mL
10 mM	0.2526 mL	1.2632 mL	2.5264 mL
50 mM	0.0505 mL	0.2526 mL	0.5053 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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