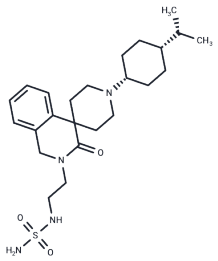
Data Sheet (Cat.No.T37610)

TargetMol

AT-121

Chemical Properties



CAS No. : 2099681-31-7

Formula: C24H38N4O3S

Molecular Weight: 462.65

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	AT-121 is a dual μ-opioid and neuropeptide receptor partial agonist (Kis 16.49 and 3.67 nM, respectively). It stimulates [35S]GTPγS binding to cell membranes expressing either μ-opioid receptors or neuropeptide receptors (EC50s of 19.6 and 34.7 nM, respectively.) AT-121 (0.003-0.03 mg/kg) reduced capsaicin-induced thermal anisocoria in a dose-dependent manner, but did not increase scratching activity in rhesus monkeys. In rhesus monkey drug self-administration tests, AT-121 at doses of 0.3 to 10 μg/kg per injection lacked reinforcing effects (a potential marker of abuse) and did not reduce the reinforcing effects of food pellets.AT-121 (0.01 or 0.03 mg/kg) did not induce hyperalgesia, a marker of tolerance, in rhesus monkeys.AT-121 is a safe non-addictive pain reliever with anti-injury and analgesic effects.
Targets(IC50)	Opioid Receptor
In vivo	AT-121 (0.003-0.03 mg/kg; s.c.; rhesus monkeys) decreases capsaicin-induced thermal allodynia dose-dependently without increasing scratching activity or inducing hyperalgesia, a marker of tolerance development, in doses of 0.01 or 0.03 mg/kg in rhesus monkeys. [1]

Solubility Information

Solubility	DMSO: 55 mg/mL (118.88 mM),Sonication is recommended. Chloroform: 9 mg/mL (19.45 mM),Sonication is recommended. DMF: Miscible Ethanol: Miscible Ethanol:PBS (pH 7.2) (1:20): 50 μg/mL,Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.1615 mL	10.8073 mL	21.6146 mL
5 mM	0.4323 mL	2.1615 mL	4.3229 mL
10 mM	0.2161 mL	1.0807 mL	2.1615 mL
50 mM	0.0432 mL	0.2161 mL	0.4323 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

Ding H, et al. A bifunctional nociceptin and mu opioid receptor agonist is analgesic without opioid side effects in nonhuman primates. Sci Transl Med. 2018;10(456):eaar3483.