Data Sheet (Cat.No.T14092)

TargetMol®
YOUR TARGET MOLECULES

AC260584

Chemical Properties

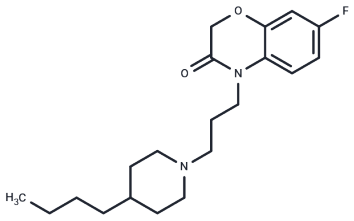
CAS No. : 560083-42-3

Formula: C20H29FN2O2

Molecular Weight: 348.45

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year



Biological Description

Description	AC260584 is an M1 muscarinic receptor allosteric agonist (pEC50: 7.6).
Targets(IC50)	Others
In vitro	AC260584 is identified as a potent (pEC50=7.6-7.7) and efficacious (90-98% of carbachol) agonist for the muscarinic M1 receptor, exhibiting significant functional selectivity over the M2, M3, M4, and M5 subtypes of muscarinic receptors. This selectivity profile of AC260584 is consistent across native tissues expressing mAChRs and recombinant systems.
In vivo	In rodent studies, AC260584 has been shown to activate the phosphorylation of extracellular signal-regulated kinase 1 and 2 (ERK1/2) in the hippocampus, prefrontal cortex, and perirhinal cortex. This activation is contingent upon the activation of muscarinic M1 receptors, as evidenced by its absence in M1 receptor knockout mice. Furthermore, AC260584 enhances cognitive performance in mice, as demonstrated in the novel object recognition test, with this effect being inhibited by the muscarinic receptor antagonist pirenzepine. Additionally, AC260584 has been noted for its oral bioavailability in rodents. At doses of 3 and 10 mg/kg, AC260584 significantly boosts dopamine release in the medial prefrontal cortex and hippocampus, while only the 10 mg/kg dose notably increases acetylcholine release in these areas.

Solubility Information

Solubility	DMSO: 50 mg/mL (143.49 mM), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8699 mL	14.3493 mL	28.6985 mL
5 mM	0.574 mL	2.8699 mL	5.7397 mL
10 mM	0.287 mL	1.4349 mL	2.8699 mL
50 mM	0.0574 mL	0.287 mL	0.574 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.

Reference

Bradley SR, et al. AC260584, an orally bioavailable M(1) muscarinic receptor allosteric agonist, improves cognitive performance in an animal model. Neuropharmacology. 2010 Feb;58(2):365-73.