

mGluR5 modulator 1

Chemical Properties

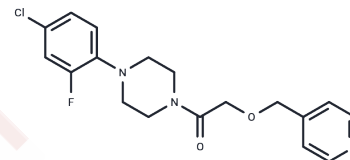
CAS No. : 1261171-52-1

Formula: C₁₈H₁₉ClFN₃O₂

Molecular Weight: 363.82

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	mGluR5 modulator 1 is a compound that acts as a positive allosteric modulator of the metabotropic glutamate receptor subtype 5 (mGluR5). Its primary application lies in the field of schizophrenia and cognitive impairment research.
Targets(IC50)	Others,GluR
In vitro	mGluR5 modulator 1, identified as compound 2c at concentrations ranging from 0.1 to 0.00001 nM, enhances L-glutamate and DHPG-induced responses to levels comparable with those of orthosteric agonists in calcium (Ca ²⁺) mobilization and inositol monophosphate (IP1) accumulation assays. Furthermore, at the same concentrations, it surpasses the maximal response of orthosteric agonists in ERK1/2 phosphorylation assays, indicating an enhanced activation. Additionally, mGluR5 modulator 1 triggers mGluR5 receptor internalization independently of the presence of orthosteric agonists or antagonists. It also amplifies the effects of orthosteric agonists (L-glutamate or DHPG) in Ca ²⁺ mobilization, IP1 accumulation, and ERK1/2 phosphorylation in HEK293A-mGluR5-low cells, demonstrating significant potency and effectiveness (pK _B values of 5.4 and 5.3 for Ca ²⁺ mobilization, 5.88 and 5.4 for ERK1/2 phosphorylation, respectively). In cortical neurons, mGluR5 modulator 1 further strengthens DHPG's impact, evidenced by pEC ₅₀ values of 6.32 and 6.33 in Ca ²⁺ mobilization and IP1 accumulation, showcasing its potential in modulating glutamatergic responses [1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.7486 mL	13.7431 mL	27.4861 mL
5 mM	0.5497 mL	2.7486 mL	5.4972 mL
10 mM	0.2749 mL	1.3743 mL	2.7486 mL
50 mM	0.055 mL	0.2749 mL	0.5497 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

Arsova A, et al. Positive Allosteric Modulators of Metabotropic Glutamate Receptor 5 as Tool Compounds to Study Signaling Bias. Mol Pharmacol. 2021 May;99(5):328-341.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481