Ro 67-7476

Cat. No.: HY-100403

CAS No.: 298690-60-5

Molecular Formula: $C_{17}H_{18}FNO_2S$

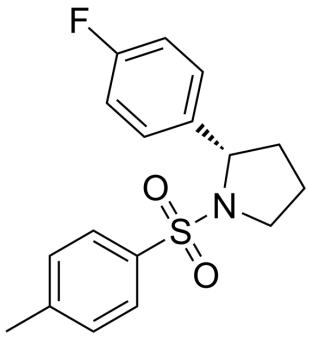
Molecular Weight: 319.39

Target: mGluR

Pathway: GPCR/G Protein; Neuronal Signaling

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 40 mg/mL (125.24 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.1310 mL	15.6548 mL	31.3097 mL
5 mM	0.6262 mL	3.1310 mL	6.2619 mL
10 mM	0.3131 mL	1.5655 mL	3.1310 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.83 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.83 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ro 67-7476 is a potent positive allosteric modulator of $mGluR_1$ and potentiates glutamate-induced calcium release in HEK293 cells expressing rat mGluR1a with an EC_{50} of 60.1 nM[1][2]. Ro 67-7476 is a potent P-ERK1/2 agonist and activates ERK1/2 phosphorylation in the absence of exogenously added glutamate (EC_{50}=163.3 nM)[3].

IC_{50} & Target

mGluR1a

60.1 nM (EC50)

In Vitro

In the Purkinje cells of rat cerebellar slices, Ro 67-7476 increases the amplitude of mGluR1 excitatory postsynaptic potentials (EPSCs) evoked by 2,3-dihydroxy-6-nitro-7-sulfamoylbenzoquionxaline, picrotoxin, or AP5[3].

?Ro 67-7476 activates ERK1/2 phosphorylation in the absence of exogenously added glutamate (EC_{50}=163.3 nM). The EC50?value of? full P-ERK1/2 activation for Ro 67-7476 are nearly identical to the EC_{50} for calcium mobilization potentiation [3].

Ro 67-7476 increases basal cAMP production approximately by 8%. It potentiated threshold responses to glutamate in the cAMP accumulation assay, with an EC_{50}?value of 17.7 μM[3].

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

CUSTOMER VALIDATION

- Int J Biol Sci. 2022 Jan 1;18(2):473-490.
- Int Immunopharmacol. 2022 Aug 20;111:109171.
- Mol Neurobiol. 2023 Sep 11.
- Pharmaceuticals. 2022 Aug 20;15(8):1027.

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REFERENCES

[1]. F Knoflach, et al. Positive allosteric modulators of metabotropic glutamate 1 receptor: characterization, mechanism of action, and binding site. Proc Natl Acad Sci U S A. 2001 Nov 6;98(23):13402-7

[2]. Kamondanai Hemstapat, et al. A novel class of positive allosteric modulators of metabotropic glutamate receptor subtype 1 interact with a site distinct from that of negative allosteric modulators. Mol Pharmacol. 2006 Aug;70(2):616-26.

[3]. Douglas J Sheffler, et al. Allosteric potentiators of metabotropic glutamate receptor subtype 1a differentially modulate independent signaling pathways in baby hamster kidney cells. Neuropharmacology. 2008 Sep;55(4):419-27

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