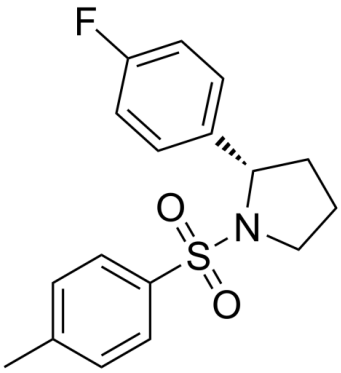
Data Sheet

Product Name:	Ro 67-7476
Cat. No.:	CS-5751
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
Solubility:	DMSO : ≥ 40 mg/mL (125.24 mM)



BIOLOGICAL ACTIVITY:

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]. ***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].

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

CAIndexNames:

Pyrrolidine, 2-(4-fluorophenyl)-1-[(4-methylphenyl)sulfonyl]-, (2S)-

SMILES:

O=S(N1[C@H](C2=CC=C(F)C=C2)CCC1)(C3=CC=C(C)C=C3)=O

Caution: Product has not been fully validated for medical applications. For research use only.

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