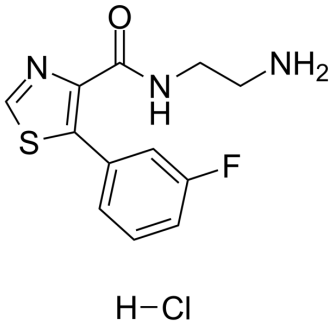
Ro 41-1049 hydrochloride

Cat. No.:	HY-100027A
CAS No.:	127917-66-2
Molecular Formula:	$C_{12}H_{13}ClFN_3OS$
Molecular Weight:	301.77
Target:	Monoamine Oxidase
Pathway:	Neuronal Signaling
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 32 mg/mL (106.04 mM)

H_2O : 25 mg/mL (82.84 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.3138 mL	16.5689 mL	33.1378 mL
5 mM	0.6628 mL	3.3138 mL	6.6276 mL
10 mM	0.3314 mL	1.6569 mL	3.3138 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 20 mg/mL (66.28 mM); Clear solution; Need ultrasonic and warming and heat to 60°C
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (8.28 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.28 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.28 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ro 41-1049 hydrochloride is a reversible and selective inhibitor of monoamine oxidase-A (MAO-A). An homogeneous population of high affinity binding sites for [^{3}H]Ro 41-1049 is found in membrane preparations from human frontal cortex and placenta (K_d values of 16.5 and 64.4 nM, respectively)[1].

IC_{50} & Target

MAO-A[1]

In Vivo

Ro 41-1049 (1-50 mg/kg; intraperitoneal injection; for 3 hours; Sprague-Dawley rats) treatment inhibits dopamine metabolite formation and increases dopamine levels in a dose-dependent fashion. Pretreatment with Ro 41-1049 (20 mg/kg) significantly increases dopamine formation following L-dopa administration (100 mg/kg IP) while decreasing formation of 3,4-dihydroxyphenylacetic acid (DOPAC) and homovanillic acid (HVA)[2].

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

Animal Model:	Sprague-Dawley rats (200-240 g)[2]
Dosage:	1 mg/kg, 5 mg/kg, 10 mg/kg, 20 mg/kg, or 50 mg/kg
Administration:	Intraperitoneal injection; for 3 hours
Result:	Inhibited dopamine metabolite formation and increased dopamine levels in a dose-dependent fashion. Pretreatment with the concentration of 20 mg/kg significantly increased dopamine formation following L-dopa administration while decreasing formation of DOPAC and HVA.

REFERENCES

[1]. Cesura AM, et al. Characterization of the binding of [3H]Ro 41-1049 to the active site of human monoamine oxidase-A. Mol Pharmacol. 1990 Mar;37(3):358-66.

[2]. Brannan T, et al. Effect of a selective MAO-A inhibitor (Ro 41-1049) on striatal L-dopa and dopamine metabolism: an in vivo study. J Neural Transm Park Dis Dement Sect. 1994;8(1-2):99-105.

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