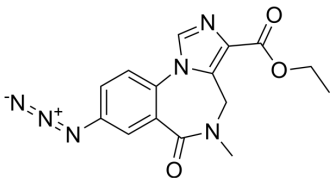
Ro15-4513

Cat. No.:	HY-103476
CAS No.:	91917-65-6
Molecular Formula:	$C_{15}H_{14}N_6O_3$
Molecular Weight:	326.31
Target:	GABA Receptor
Pathway:	Membrane Transporter/Ion Channel; 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 : 10 mg/mL (30.65 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.0646 mL	15.3229 mL	30.6457 mL
	5 mM	0.6129 mL	3.0646 mL	6.1291 mL
	10 mM	0.3065 mL	1.5323 mL	3.0646 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: ≥ 1 mg/mL (3.06 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ro15-4513, imidazobenzodiazepinone derivative, is a partial inverse agonist of benzodiazepine receptor (BZR)[1]. Ro15-4513 is a potent ethanol antagonist[2]. Ro15-4513 has anti-anxiety effect[3]. Ro15-4513 is a click chemistry reagent, it contains an Azide group and can undergo copper-catalyzed azide-alkyne cycloaddition reaction (CuAAc) with molecules containing Alkyne groups. Strain-promoted alkyne-azide cycloaddition (SPAAC) can also occur with molecules containing DBCO or BCN groups.

IC_{50} & Target

BZR[1]; ethanol[2];

In Vitro

Ro15-4513 usually acts as a partial inverse agonist at $GABA_A$ receptors, except an agonist for α4 and α6 subunit-containing ones[3].

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

In Vivo

Ro 15-4513 (i.p.; 3 mg/kg; 10 min before being tested) completely inhibits the ethanol-induced (1.8 g/kg) reduction in total locomotor activity and partly the reduction in rearing[2].

Ro 15-4513 (i.p.; 3 mg/kg; 15 min before administration of 1.5 g/kg ethanol) reverses ethanol-induced sedation in $GABA_A$ receptor δ subunit-deficient mice[2].

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

Animal Model:	Male C57BL/6J mice[2]
Dosage:	3 mg/kg
Administration:	I.p.; 10 min before being tested
Result:	Completely inhibited the ethanol-induced reduction in total locomotor activity and partly the reduction in rearing.

REFERENCES

[1]. Bonetti EP, et al. Ro 15-4513: partial inverse agonism at the BZR and interaction with ethanol. Pharmacol Biochem Behav. 1988 Nov;31(3):733-49.

[2]. Suzdak PD, et al. Effects of Ro15-4513 and other benzodiazepine receptor inverse agonists on alcohol-inducedintoxication in the rat. J Pharmacol Exp Ther. 1988 Jun;245(3):880-6.

[3]. Linden AM, et al. Ro 15-4513 Antagonizes Alcohol-Induced Sedation in Mice Through αβγ2-type GABA(A) Receptors. Front Neurosci. 2011 Jan 20;5:3.

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