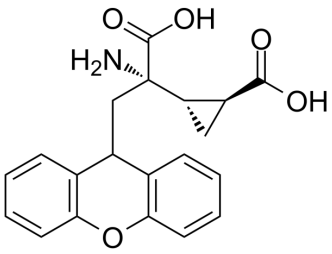
LY341495

Cat. No.:	HY-70059
CAS No.:	201943-63-7
Molecular Formula:	$C_{20}H_{19}NO_5$
Molecular Weight:	353.37
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 : 6 mg/mL (16.98 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8299 mL	14.1495 mL	28.2990 mL
	5 mM	0.5660 mL	2.8299 mL	5.6598 mL
	10 mM	0.2830 mL	1.4149 mL	2.8299 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.6 mg/mL (1.70 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

LY341495 is a metabotropic glutamate receptor (mGluR) antagonist with IC_{50}s of 21 nM, 14 nM, 7.8 μM, 8.2 μM, 170 nM, 990 nM, 22 μM for mGlu2, mGlu3, mGlu1a, mGlu5a, mGlu8, mGlu7, and mGlu4 receptors, respectively[5].

IC_{50} & Target

mGluR1a 7.8 μM (IC_{50})	mGluR2 21 nM (IC_{50})	mGluR3 14 nM (IC_{50})	mGluR4 22 μM (IC_{50})
mGluR5a 8.2 μM (IC_{50})	mGluR7 990 nM (IC_{50})	mGluR8 170 nM (IC_{50})	

In Vivo

LY341495 (0.3, 1, and 3 mg/kg, i.p.) displays a lower level of discrimination in rats[1]. LY341495 (3.0 mg/kg) decreases Dvl-2, pGSK-3α/β and β-catenin protein levels but Dvl-1, Dvl-3 and GSK-3α/β are unaffected in both the PFC and STR. LY341495 has the generally the opposite effect following acute and chronic administration compared to mGlu2/3 agonist, LY379268[2].

LY341495 (3 mg/kg, i.p., 2.5 h) -induced c-Fos expression is not altered in either KO brain. LY341495 is almost inactive in the central extended amygdala [central nucleus of the amygdala, lateral (CeL) and bed nucleus of the stria terminalis, laterodorsal (BSTLD)] in mGluR3-KO mice[3].

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

PROTOCOL

Animal Administration [1]

The rats are randomLy divided into six experimental groups (10 rats per group): vehicle and 0.05, 0.1, 0.3, 1, and 3 mg/kg LY341495. The LY341495 doses are selected on the basis of results from previous Published studies that evaluated the effects of this compound on cognition. The rats are subjected to a training session that consisted of two 2-min trials. The animals receive either vehicle or LY341495 immediately after T1. Using the 2-min trial duration, an ITI of 1 h is used because recognition memory is still intact in untreated control rats under these experimental conditions

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

CUSTOMER VALIDATION

- Pain. 2016 Aug;157(8):1711-23.
- Neuropharmacology. 2020 Oct 15;177:108231.
- Neuropharmacology. 2018 May 1;133:354-365.
- Front Pharmacol. 2020 Feb 28;11:183.
- Phytopathology Research. (2019) 1:12.

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REFERENCES

[1]. Pitsikas N, et al. The metabotropic glutamate 2/3 receptor antagonist LY341495 differentially affects recognition memory in rats. Behav Brain Res. 2012 May 1;230(2):374-9.

[2]. Sutton LP, et al. Regulation of Akt and Wnt signaling by the group II metabotropic glutamate receptor antagonist LY341495 and agonist LY379268.J Neurochem. 2011 Jun;117(6):973-83.

[3]. Linden AM, et al. Use of MGLUR2 and MGLUR3 knockout mice to explore in vivo receptor specificity of the MGLUR2/3 selective antagonist LY341495. Neuropharmacology. 2009 Aug;57(2):172-82. Epub 2009 May 27.

[4]. Li J, et al. N-acetyl-cysteine attenuates neuropathic pain by suppressing matrix metalloproteinases. Pain. 2016 Aug;157(8):1711-23.

[5]. A E Kingston, et al. LY341495 Is a Nanomolar Potent and Selective Antagonist of Group II Metabotropic Glutamate Receptors.Neuropharmacology. 1998;37(1):1-12.

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com