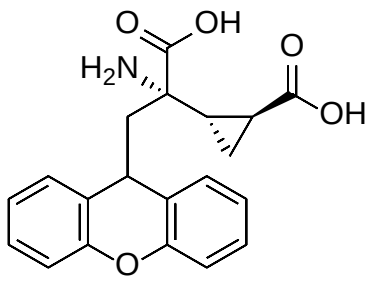
Product data sheet

MedKoo Cat#: 526740 Name: LY-341495 CAS: 201943-63-7 Chemical Formula: $C_{20}H_{19}NO_5$ Exact Mass: 353.1263 Molecular Weight: 353.374	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

LY 341495 is a potent and selective orthosteric antagonist for the group II metabotropic glutamate receptors (mGluR2/3). Ki/IC50 values of LY-341495 are 2.3, 1.3, 173, 990, 6800, 8200 and 22000 nM for human mGlu2, mGlu3, mGlu8 , mGlu7a, mGlu1a, mGlu5a and mGlu4a receptors respectively. It is used in scientific research in several different areas, showing antidepressant effects in animal models, increasing the behavioural effects of hallucinogenic drugs in animal tests, and increasing the analgesic effects of μ-opioid agonists, as well as modulating dopamine receptor function.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	3.89	10.99

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.83 mL	14.15 mL	28.30 mL
5 mM	0.57 mL	2.83 mL	5.66 mL
10 mM	0.28 mL	1.41 mL	2.83 mL
50 mM	0.06 mL	0.28 mL	0.57 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Johnson BG, Wright RA, Arnold MB, Wheeler WJ, Ornstein PL, Schoepp DD. [3H]-LY341495 as a novel antagonist radioligand for group II metabotropic glutamate (mGlu) receptors: characterization of binding to membranes of mGlu receptor subtype expressing cells. Neuropharmacology. 1999 Oct;38(10):1519-29. doi: 10.1016/s0028-3908(99)00053-2. PMID: 10530814.
2. Fitzjohn SM, Bortolotto ZA, Palmer MJ, Doherty AJ, Ornstein PL, Schoepp DD, Kingston AE, Lodge D, Collingridge GL. The potent mGlu receptor antagonist LY341495 identifies roles for both cloned and novel mGlu receptors in hippocampal synaptic plasticity. Neuropharmacology. 1998 Dec;37(12):1445-58. doi: 10.1016/s0028-3908(98)00145-2. PMID: 9886667.

In vivo study

1. Pitsikas N, Kaffe E, Markou A. The metabotropic glutamate 2/3 receptor antagonist LY341495 differentially affects recognition memory in rats. Behav Brain Res. 2012 May 1;230(2):374-9. doi: 10.1016/j.bbr.2012.02.027. PMID: 22586715; PMCID: PMC3705739.
2. Linden AM, Johnson BG, Trokovic N, Korpi ER, Schoepp DD. 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. doi: 10.1016/j.neuropharm.2009.05.002. Epub 2009 May 27. PMID: 19477188.

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7. Bioactivity

Biological target:

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.

In vitro activity

Using membranes from cells expressing human mGlu2 and mGlu3 receptors, [3H]-LY341495 (1 nM) specific binding was > 90% of total binding. At an approximate K(D) concentration for [3H]-LY341495 binding to human mGlu2 and mGlu3 receptors (1 nM), no appreciable specific binding of [3H-]LY341495 was found in membranes of cells expressing human mGlu1a, mGlu5a, mGlu4a, mGlu6, or mGlu7a receptors.

Reference: Neuropharmacology. 1999 Oct;38(10):1519-29. https://pubmed.ncbi.nlm.nih.gov/10530814/

In vivo activity

To clarify the role of mGlu2/3 receptor antagonists in one aspect of cognition, the present study investigated the effects of a broad range of doses of the mGlu2/3 receptor antagonist LY341495 on post-training recognition memory components (storage and/or retrieval) in rats. The highest LY341495 doses administered (0.3, 1, and 3 mg/kg) disrupted performance in this recognition memory procedure in rats at all delay conditions tested, whereas administration of lower doses (0.05 and 0.1 mg/kg) did not impair recognition memory. Moreover, administration of the low LY341495 doses (0.05 and 0.1 mg/kg) counteracted the extinction of recognition memory.

Reference: Behav Brain Res. 2012 May 1;230(2):374-9. https://pubmed.ncbi.nlm.nih.gov/22586715/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.