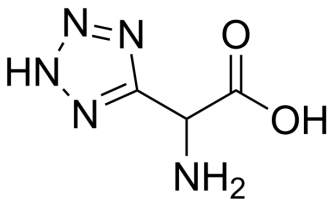
(RS)-(Tetrazol-5-yl)glycine

Cat. No.:	HY-100839
CAS No.:	138199-51-6
Molecular Formula:	$C_3H_5N_5O_2$
Molecular Weight:	143.1
Target:	iGluR
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	(RS)-(Tetrazol-5-yl)glycine (D,L-(tetrazol-5-yl)glycine) is a highly potent and selective N-methyl-D-aspartate (NMDA) receptor agonist[1]. (RS)-(Tetrazol-5-yl)glycine has EC_{50}s of 99 nM, 1.7 μM for GluN1/GluN2D and GluN1/GluN2A, respectively[2]. (RS)-(Tetrazol-5-yl)glycine induces seizure responses and Fos in mice[3].
IC_{50} & Target	NMDA Receptor
In Vitro	(RS)-(Tetrazol-5-yl)glycine (D,L-(tetrazol-5-yl)glycine) is a agonist of N-methyl-D-aspartate (NMDA) subtype of excitatory amino acid receptor. (RS)-(Tetrazol-5-yl)glycine displaces NMDA receptor binding to rat brain membranes as measured using [^{3}H]CGS19755 (IC_{50}=98 nM) and [^{3}H]glutamate (IC_{50}=36 nM) as ligands[1]. (RS)-(Tetrazol-5-yl)glycine does not appreciably inhibit the binding of D,L-alpha-[5-methyl-3H] amino-3-hydroxy-5-methylisoxazole-4-propionic acid (AMPA), [^{3}H]kainate, or [^{3}H]glycine (IC_{50}s>30 μM)[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	(RS)-(Tetrazol-5-yl)glycine can be used in animal modeling to construct epilepsy models. (RS)-(Tetrazol-5-yl)glycine (D,L-(tetrazol-5-yl)glycine; 1.25, 1.5 mg/kg; IP) induces seizure responses and Fos in the NR1+/+ and NR1-/- mice[3]. (RS)-(Tetrazol-5-yl)glycine is a highly potent convulsant when given to neonatal rats (ED_{50}=0.071 mg/kg; i.p.) [1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C57BL/6 mice[3]
Dosage:	1.25, 1.5 mg/kg
Administration:	IP
Result:	Induced seizure responses and Fos.

REFERENCES

[1]. Schoepp DD, et al. D,L-(tetrazol-5-yl) glycine: a novel and highly potent NMDA receptor agonist. Eur J Pharmacol. 1991 Oct 15;203(2):237-43.

[2]. Vance KM, et al. Ligand-specific deactivation time course of GluN1/GluN2D NMDA receptors. Nat Commun. 2011;2:294.

[3]. Duncan GE, et al. Seizure responses and induction of Fos by the NMDA agonist (tetrazol-5-yl)glycine in a geneticmodel of NMDA receptor hypofunction. Brain Res. 2008 Jul 24;1221:41-8.

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