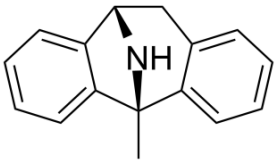
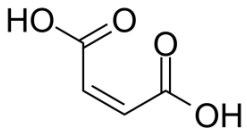
(-)-Dizocilpine maleate





Cat. No.: HY-15084A

CAS No.: 121917-57-5

Molecular Formula: $C_{20}H_{19}NO_4$

Molecular Weight: 337.37

Target: iGluR

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 : 100 mg/mL (296.41 mM; Need ultrasonic)

Ethanol : 25 mg/mL (74.10 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.9641 mL	14.8205 mL	29.6410 mL
5 mM	0.5928 mL	2.9641 mL	5.9282 mL
10 mM	0.2964 mL	1.4821 mL	2.9641 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (6.17 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.17 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.17 mM); Clear solution
4. Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (7.41 mM); Clear solution
5. Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.41 mM); Clear solution
6. Add each solvent one by one: 10% EtOH >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.41 mM); Clear solution

BIOLOGICAL ACTIVITY

Description	(-)-Dizocilpine maleate ((-)-MK-801 maleate) is a less active (-)-enantiomer of Dizocilpine. (-)-Dizocilpine maleate is a selective and non-competitive N-methyl-D-aspartate (NMDA) receptor antagonist with a K_i of 211.7 nM. (-)-Dizocilpine maleate has antidepressant effects[1][2].
IC_{50} & Target	Ki: 211.7 nM (N-methyl-D-aspartate (NMDA) receptor)[1]
In Vitro	(-)-Dizocilpine maleate ((-)-MK-801 maleate) significantly inhibited the uptake of all three (norepinephrine, dopamine and serotonin) monoamine transporters in a dose-dependent manner in HEK cells. The K_i values of (-)-Dizocilpine on the norepinephrine, dopamine and serotonin transporters are 3.7 μM, 40 μM and 47 μM, respectively[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	(-)-Dizocilpine maleate (0.1 mg/kg; intraperitoneal injection; male adult C57BL/6 mice) treatment induces rapid antidepressant effects in the social defeat stress model[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male adult C57BL/6 mice (20-25g; aged 8 weeks) with social defeat stress model[1]
Dosage:	0.1 mg/kg
Administration:	Intraperitoneal injection
Result:	Induced rapid antidepressant effects in the social defeat stress model.

REFERENCES

[1]. Yang B, et al. Antidepressant Effects of (+)-MK-801 and (-)-MK-801 in the Social Defeat Stress Model. Int J Neuropsychopharmacol. 2016 Dec 30;19(12).

[2]. Nishimura M, et al. MK-801 blocks monoamine transporters expressed in HEK cells. FEBS Lett. 1998 Feb 27;423(3):376-80.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA