

## DATASHEET

(+)-MK 801 maleate

### Product overview

<b>Name</b>	(+)-MK 801 maleate
<b>Cat No</b>	HB0004
<b>Alternative names</b>	Dizocilpine maleate, Dizocilpine
<b>Biological action</b>	Antagonist
<b>Purity</b>	>98%
<b>Customer comments</b>	<i>We are using MK801 in our research. We are very satisfied with the quality of this product. <b>Verified customer, UCSD</b></i>

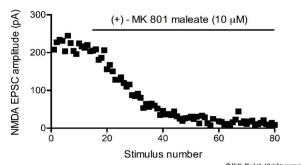
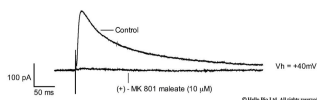
*(+)-MK 801 maleate does what it should! It is a very good product, delivered very rapidly. **Verified customer, Research University Paris***

*...our first order with Hello Bio, has been satisfactory. The (+)-MK 801 Maleate has arrived in only some days and it was in perfect conditions. **Verified customer, Universidad de La Laguna***

### Description

Potent, selective, non-competitive NMDA receptor antagonist

### Images



### Biological Data

#### Biological description

Potent, selective and non-competitive NMDA receptor antagonist ( $K_d = 37.2$  nM). Approx 10-fold more potent than (-)-MK 801 maleate. Prevents calcium ion influx and long term potentiation induction. Shows anticonvulsant and neuroprotective properties.

#### Application notes

The NMDA receptor antagonist (+)-MK 801 is use-dependent and blocks NMDARs in their open conformation.

(+)-MK 801 from Hello Bio fully abolishes evoked NMDAR currents at 10  $\mu$ M rapidly upon repeated stimulations (see Fig 1 above). At concentrations of 50  $\mu$ M a more rapid receptor blockade was observed.

#### #Protocol 1: Evoked NMDA receptor currents

- Whole cell voltage clamp recordings were obtained from layer V neurons of the mouse prelimbic cortex brain slice.
- NMDA currents were evoked via a stimulating electrode placed in layers II/III and

evoked by a single square (150  $\mu$ s) pulse every 10 sec at a stimulus intensity that gave a reliable NMDA current.

- Neurons were held at +40 mV to relieve NMDA currents from their voltage-dependent  $Mg^{2+}$  block.
- NMDA currents were continually stimulated and recorded in response to continual bath applications of (+)-MK 801 until NMDA currents were completely abolished.
- All NMDAR recordings were made in the presence of GABA<sub>A</sub>-R and AMPAR antagonists.

---

## Solubility & Handling

### Storage instructions Solubility overview Important

Room temperature

Soluble in water (25mM, gentle warming) and in DMSO (100mM)

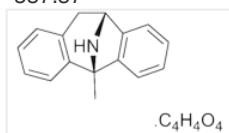
This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

---

## Chemical Data

### Chemical name Molecular Weight Chemical structure

(5S,10R)-(+)-5-Methyl-10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5,10-imine maleate  
337.37



### Molecular Formula CAS Number PubChem identifier SMILES Source InChi

C<sub>16</sub>H<sub>15</sub>N.C<sub>4</sub>H<sub>4</sub>O<sub>4</sub>

77086-22-7

6420042

C[C@@]12C3=CC=CC=C3C[C@@H](N1)C4=CC=CC=C24.C(=C/C(=O)O)/C(=O)O

Synthetic

InChi=1S/C16H15N.C4H4O4/c1-16-13-8-4-2-6-11(13)10-15(17-16)12-7-3-5-9-14(12)16;5-3(6)1-2-4(7)8/h2-9,15,17H,10H2,1H3;1-2H,(H,5,6)(H,7,8)/b;2-1-/t15-,16+;/m1./s1

### InChiKey MDL number Appearance

QLTXKCWMEZIHBJ-PJGJYSAQSA-N

MFCD00082465

White solid

---

## References

### Effects of MK-801 stereoisomers on schedule-controlled behavior in rats.

Genovese RF *et al* (1991) Psychopharmacology (Berl) 105(4)

PubMedID [1771215](#)

### The effects of dizocilpine maleate (MK-801), an antagonist of the N-methyl-D-aspartate receptor, on neurologic recovery and histopathology following complete cerebral ischemia in primates.

Lanier WL *et al* (1990) J Cereb Blood Flow Metab 10(2)

PubMedID [2154509](#)

### MK-801 blocks NMDA receptor-mediated synaptic transmission and long term potentiation in rat hippocampal slices.

Coan EJ *et al* (1987) Neurosci Lett 80(1)

PubMedID [2821457](#)

### The anticonvulsant MK-801 is a potent N-methyl-D-aspartate antagonist.

Wong EH *et al* (1986) Proc Natl Acad Sci U S A 83(18)

PubMedID [3529096](#)

---

