

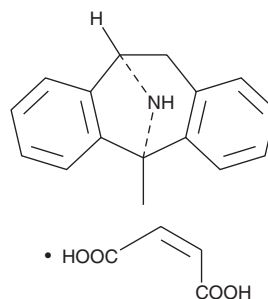
# PRODUCT INFORMATION



## (+)-MK-801 (hydrogen maleate)

Item No. 10009019

**CAS Registry No.:** 77086-22-7  
**Formal Name:** 10,11-dihydro-5S-methyl-5H-dibenzo[a,d]cyclohepten-5,10-imine, (2Z)-2-butenedioate  
**Synonym:** Dizocilpine  
**MF:** C<sub>16</sub>H<sub>15</sub>N • C<sub>4</sub>H<sub>4</sub>O<sub>4</sub>  
**FW:** 337.4  
**Purity:** ≥98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

(+)-MK-801 (hydrogen maleate) is supplied as a crystalline solid. A stock solution may be made by dissolving the (+)-MK-801 (hydrogen maleate) in the solvent of choice. (+)-MK-801 (hydrogen maleate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of (+)-MK-801 (hydrogen maleate) in these solvents is approximately 0.5, 20, and 25 mg/ml, respectively.

(+)-MK-801 (hydrogen maleate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (+)-MK-801 (hydrogen maleate) should first be dissolved in DMF and then diluted with the aqueous buffer of choice. (+)-MK-801 (hydrogen maleate) has a solubility of approximately 0.5 mg/ml in a 1:9 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

MK-801 is a potent, selective and non-competitive N-methyl-D-aspartate (NMDA) (Item No. 14581) receptor antagonist ( $K_i = 30.5$  nM) that acts at the NMDA receptor-operated ion channel as an open channel blocker, preventing Ca<sup>2+</sup> flux.<sup>1</sup> It has been shown to be protective in various models of ischemia as well as to inhibit behavioral sensitization to certain psychostimulants.<sup>2,3</sup>

### References

1. Wong, E.H.K., Kemp, J.A., Priestley, T., *et al.* The anticonvulsant MK-801 is a potent N-methyl-D-aspartate antagonist. *Proc. Natl. Acad. Sci. USA* **83(18)**, 7104-7108 (1986).
2. Hatfield, R.H., Gill, R., and Brazell, C. The dose-response relationship and therapeutic window for dizocilpine (MK-801) in a rat focal ischaemia model. *Eur. J. Pharmacol.* **216(1)**, 1-7 (1992).
3. Scheggi, S., Mangiavacchi, S., Masi, F., *et al.* Dizocilpine infusion has a different effect in the development of morphine and cocaine sensitization: Behavioral and neurochemical aspects. *Neuroscience* **109(2)**, 267-274 (2002).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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