



## Catalog #10-2346

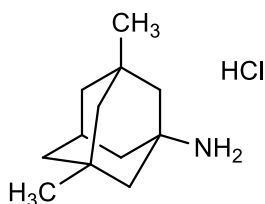
### Memantine HCl

CAS# 41100-52-1

3,5-Dimethylamantadine HCl

3,5-Dimethyl-tricyclo[3.3.1.1.3,7]decan-1-amine HCl

Lot # X105535



An NMDA noncompetitive, low affinity, open channel blocker,  $IC_{50} \sim 1 \mu M$  at  $-60$  mV in rat retinal ganglion cells.<sup>1</sup> Displays neuroprotective effects in excitotoxic conditions.<sup>2</sup> Preferentially blocks excessive NMDA receptor activity without disrupting normal activity.<sup>3</sup> A clinically well tolerated drug with therapeutic potential in numerous CNS degenerative disorders.<sup>4</sup> In clinical use for Alzheimer's disease.<sup>5</sup>

- 1) Chen and Lipton (1997), *Mechanism of memantine block of NMDA-activated channels in rat retinal ganglion cells: uncompetitive antagonism*; J. Physiol. **499** 27
- 2) Chen *et al.* (1998), *Neuroprotective concentrations of the N-methyl-D-aspartate open-channel blocker memantine are effective without cytoplasmic vacuolation following post-ischemic administration and do not block maze learning or long-term potentiation*; Neuroscience **86** 1121
- 3) Lipton *et al.* (2005), *the molecular basis of memantine action in Alzheimer's disease and other neurologic disorders: low-affinity, uncompetitive antagonism*; Curr. Alzheimer. Res. **2** 155
- 4) Parsons *et al.* (1999), *Memantine is a clinically well tolerated N-methyl-D-aspartate (NMDA) receptor antagonist—a review of preclinical data*; Neuropharmacology **38** 735
- 5) Witt *et al.* (2004), *Memantine hydrochloride*; Nat. Rev. Drug Discov. **3** 109

### PHYSICAL DATA

Molecular Weight:	215.76
Molecular Formula:	C <sub>12</sub> H <sub>21</sub> N HCl
Purity:	>98% (TLC)
	NMR: (Conforms)
Solubility:	Water (up to 20 mg/mL)
Physical Description:	White solid
Storage and Stability:	Store as supplied desiccated at room temperature for up to 1 year from the date of purchase. Solutions in distilled water may be stored at $-20^{\circ}C$ for up to 2 months.

**Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.**

Focus Biomolecules LLC 400 Davis Drive, Suite 600 Plymouth Meeting PA 19462

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