Memantine hydrochloride

Product Number  M 9292  
Store at Room Temperature

Product Description

Molecular Formula:  C\textsubscript{12}H\textsubscript{21}N \cdot HCl  
Molecular Weight:  215.8  
CAS Number:  41100-52-1  
Melting Point:  258 °C, 295 °C (varying reports)\textsuperscript{1}  
Synonym:  3-5-dimethyltricyclo[3.3.1.1\textsubscript{3,7}]decan-1-amine hydrochloride; 3,5-dimethyl-1-adamantanamine hydrochloride; 1-amino-3,5-dimethyladamantane; DMAA

Memantine is an adamantane derivative that is used in neuroscience research, such as in studies on Parkinsonism.\textsuperscript{2} A review of the \textit{in vitro} neuroprotective properties of memantine has been published.\textsuperscript{3} The pharmacology of various native N-methyl-D-aspartate (NMDA) receptor subtypes with respect to such agents as memantine has been discussed.\textsuperscript{4}

The antagonist activity of memantine (2-33 µM) on NMDA receptors of cultured superior collicular and hippocampal neurons has been studied.\textsuperscript{5} The protective effect of memantine against NMDA receptor-mediated glutamate toxicity in cultured cerebellar, cortical and mesencephalic neurons has been investigated.\textsuperscript{6}

Memantine (100 µM) has been shown to diminish spontaneous synaptic activity with action potential frequencies above 6 Hz in cultured mouse nerve cells.\textsuperscript{7} In cultured rat ganglion retinal cells, 2 µM memantine has been demonstrated to reduce neuronal damage caused by HIV-1 coat protein gp120.\textsuperscript{8}

Assays for the analysis of memantine from plasma have been published that use LC/fluorescence and GC/MS methods.\textsuperscript{9,10} An LC-MS method for the analysis of memantine in melanin binding studies has been reported.\textsuperscript{11}

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in water (1 mg/ml), yielding a clear, colorless solution.

References

1. The Merck Index, 12th ed., Entry# 5872.  


GCY/RXR 12/03