Clozapine

Product Number  C 6305
Store at Room Temperature

Product Description
Molecular Formula:  C_{18}H_{19}ClN_{4}
Molecular Weight:  326.8
CAS Number:  5786-21-0
Melting Point:  183-184 °C
λ_{max}:  215 nm, 230 nm, 261 nm, 297 nm (ethanol)
Extinction coefficients (ethanol):  E_{M} = 27.4 (215 nm), 25.8 (230 nm), 16.8 (261 nm), 10.5 (297 nm)
Synonym:  8-chloro-11-(4-methyl-1-piperazinyl)-5H-dibenzo[b,e][1,4]diazepine

Clozapine is a dibenzodiazepine compound that is used in cell signaling research. It has dopamine receptor blocking activity, α-adrenergic blocking, antimuscarinic, antihistamine, and antiserotonergic properties. The role of clozapine in reversing the inhibitory effect of dopamine on sodium and water transport in the rat cortical collecting duct has been reviewed.

The effects of clozapine on cell culture and transgenic mouse models of amyotrophic lateral sclerosis have been investigated. Clozapine has been used to probe the role of the calcium/calmodulin-dependent kinase II in NMDA-induced inward currents and electrically evoked excitatory postsynaptic currents in mouse brain sections, cultured mouse cells, and transgenic mice. Clozapine has been shown to inhibit phosphorylation of the DARPP-32 phosphoprotein (dopamine and cAMP-regulated phosphoprotein of molecular weight 32 kDa), which has a role in dopaminergic and serotonergic neurotransmission.

An HPLC-ESI/MS method for the analysis of clozapine from plasma has been published. A method for clozapine analysis from plasma that combines atmospheric pressure photoionization (APPI) with HPLC and LC/MS has been reported.

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

Preparation Instructions
This product is soluble in methanol (10 mg/ml), yielding a clear, yellow to yellow-green solution. It is also soluble in 0.1 N HCl (30 mg/ml), ethanol (11 mg/ml), and DMSO (4.8 mg/ml).

References
1. The Merck Index, 12th ed., Entry# 2484.
Sigma brand products are sold through Sigma-Aldrich, Inc. Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.