

Clozapine

Catalog No: tcsc0644



Available Sizes

Size: 100mg

Size: 500mg

Size: 5g



Specifications

CAS No:

5786-21-0

Formula:

$C_{18}H_{19}ClN_4$

Pathway:

GPCR/G Protein;Neuronal Signaling

Target:

Dopamine Receptor;Dopamine Receptor

Purity / Grade:

>98%

Solubility:

DMSO : 50 mg/mL (152.99 mM; Need ultrasonic)

Alternative Names:

HF 1854

Observed Molecular Weight:

326.82

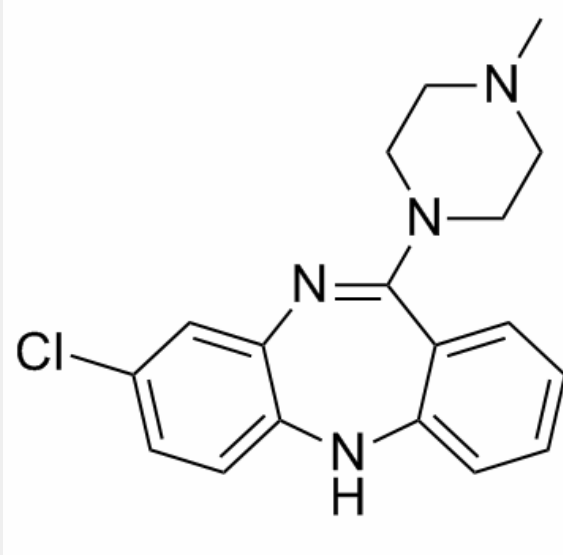
Product Description

Clozapine (HF 1854) is an antipsychotic used to treat schizophrenia. Clozapine is a potent antagonist of dopamine and a number of other receptors, with a K_i of 9.5 nM for **M1** receptor.

IC50 & Target: K_i : 9.5 nM (M1), 51 nM (α 2-adrenoceptor), 75 nM (D2)^[1]

In Vitro: Clozapine shows the unique property of having antipsychotic action but no Parkinson-like motor side effects. The chemical structure of clozapine facilitates a relatively rapid dissociation from D2 receptors. After short-term occupation of D2 receptors, peak neural activity raises synaptic dopamine, which then displaces clozapine. While clozapine also occupies other types of receptors, they may not have a significant role in preventing parkinsonism. Clozapine is very potent at D2 receptor with a K_i of 75 nM. Clozapine is also potent at the α 2-adrenoceptor with a K_i value of 51 nM^[1]. Clozapine causes paradoxical downregulation of 5-HT_{2A} receptors. Clozapine also binds to 5-HT₆ and 5-HT₇ receptors with high affinity^[2].

In Vivo: Head-twitch response is decreased and [³H]ketanserin binding is downregulated in 1, 7, and 14 days after chronic clozapine. 5-HT_{2A} mRNA is reduced 1 day after chronic clozapine. Induction of c-fos, but not egr-1 and egr-2, is rescued 7 days after chronic clozapine^[3].



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