Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

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

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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: Ki: 9.5 nM (M1), 51 nM (α2-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 α2-adrenoceptor with a K_i value of 51 nM[1]. Clozapine causes paradoxical downregulation of 5-HT_{2A} receptors. Clozapine also binds to 5-HT_6 and 5-HT_7 receptors with high affnity[2].

In Vivo: Head-twitch response is decreased and [^{3}H]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 chronicclozapine[3].