Datasheet

Product overview

Name: Clozapine
Cat No: HB1607
Short description: Prototypic, atypical antipsychotic, binds to both serotonin and dopamine receptors

Biological description: Clozapine is a prototypic, atypical antipsychotic which binds to both serotonin and dopamine receptors ($K_i$ values are 35, 83 and 22, 250 and 141 nM at $D_2$, $D_3$ and $D_4$, $D_5$, $D_1$ and 12.6 and 13.2 nM at $5-HT_2A$ and $5-HT_2C$ receptors respectively) and also shows activity at other receptors.

Clozapine shows high BBB permeability and is active in vivo. It shows antipsychotic, antidepressant and anxiolytic activities.

Recently, clozapine (which CNO rapidly converts to) has been indicated to show high DREADD (hM3Dq and hM4Di) affinity and potency. Subthreshold clozapine injections are indicated to induce preferential DREADD-mediated behaviors.

Water soluble version of clozapine also available

Biological action: Agonist
Purity: >99%

Properties

Chemical name: 8-Chloro-11-(4-methyl-1-piperazinyl)-5H-dibenzo[b,e][1,4]diazepine
Molecular Weight: 326.83

![Chemical structure of clozapine]

Molecular Formula: $C_{18}H_{19}ClN_4$
CAS Number: 5786-21-0
PubChem identifier: 2818
SMILES: CN1CCN(CC1)C2=C3C=CC=CC3=NC4=C(N2)C=C(C=C4)Cl
InChI: InChI=1S/C18H19ClN4/c1-22-8-10-23(11-9-22)18-14-4-2-3-5-15(14)20-16-7-6-13(19)12-17(16)21-18/h2-7,12,21H,8-11H2
InChIKey: ZUXABONMNSFBN-UHFFFAOYSA-N
MDL number: MFCD00153785
Appearance: Yellow solid
Storing and Using Your Product

Storage instructions
Room temperature

Solubility overview
Soluble in DMSO (100 mM) and in ethanol (50 mM)

Important
This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

References for Clozapine

**Antipsychotic drugs: importance of dopamine receptors for mechanisms of therapeutic actions and side effects.**

PubMedID: 11171942

**Cloning of the gene for a human dopamine D5 receptor with higher affinity for dopamine than D1.**

PubMedID: 1826762

**Differential regulation of rat 5-HT2A and 5-HT2C receptors after chronic treatment with clozapine, chlorpromazine and three putative atypical antipsychotic drugs.**

PubMedID: 8597525

**Chemogenetics revealed: DREADD occupancy and activation via converted clozapine.**

PubMedID: 28774929