bio-techne
TOCRIS

Print Date: Dec 18th 2024

Certificate of Analysis

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Product Name: **Clozapine *N*-oxide dihydrochloride** **Catalog No.: 6329** **Batch No.: 6**

CAS Number: 2250025-93-3

IUPAC Name: 8-Chloro-11-(4-methyl-4-oxido-1-piperazinyl)-5*H*-dibenzo[*b*,*e*][1,4]diazepine dihydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{18}H_{19}ClN_4O.2HCl.¾H_2O$

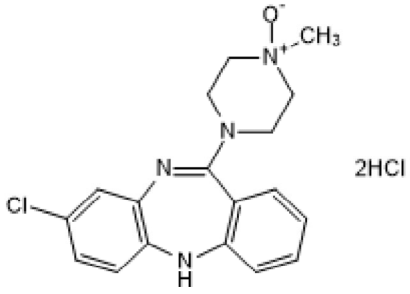
Batch Molecular Weight: 429.25

Physical Appearance: Orange solid

Solubility: water to 100 mM
DMSO to 100 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.3% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen	Chlorine
Theoretical	50.37	5.28	13.05	24.78
Found	49.69	5.42	12.63	22.92

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Description:

Clozapine N-oxide dihydrochloride is a water-soluble salt of Clozapine N-oxide (Cat. No.4936). Activator of muscarinic DREADDs. Clozapine N-oxide dihydrochloride exhibits improved bioavailability (6 - 7-fold higher plasma concentration) compared with CNO, with less conversion to clozapine in animal studies.

Physical and Chemical Properties:

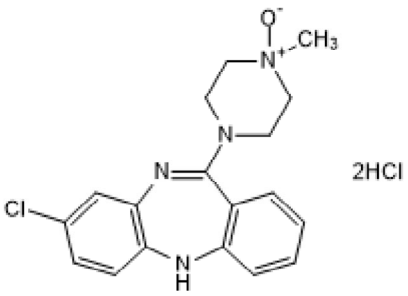
Batch Molecular Formula: $C_{18}H_{19}ClN_4O.2HCl.¾H_2O$

Batch Molecular Weight: 429.25

Physical Appearance: Orange solid

Minimum Purity: ≥99%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

water to 100 mM
DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Allen *et al* (2019) A comparative study of the pharmacokinetics of cloz. *N*-oxide and cloz. *N*-oxide hydrochloride salt in rhesus macaques. J.Pharmacol.Exp.Ther. ***368*** 199. PMID: 30523062.

Gomez *et al* (2017) Chemogenetics revealed: DREADD occupancy and activation via converted cloz. Science ***357*** 503. PMID: 28774929.

Nakajima *et al* (2016) G_s-coupled GPCR signalling in AgRP neurons triggers sustained increase in food intake. Nat.Commun. ***8*** 10268. PMID: 26743492.