

# Certificate of Analysis

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**Product Name:** Clozapine *N*-oxide dihydrochloride

**Catalog No.:** 6329

**Batch No.:** 4

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<sub>18</sub>H<sub>19</sub>ClN<sub>4</sub>O·2HCl·½H<sub>2</sub>O

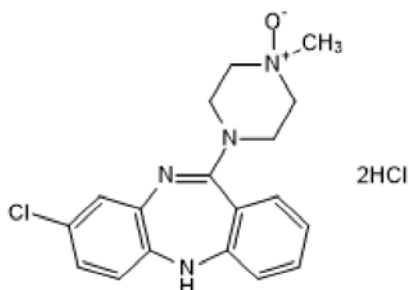
**Batch Molecular Weight:** 424.75

**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 99.1% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	50.9	5.22	13.19
Found	50.49	5.46	12.89

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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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:**

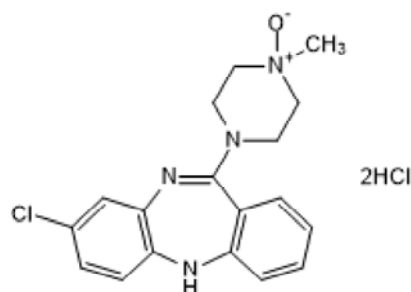
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Batch Molecular Weight: 424.75

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. Our standard recommendations are:

**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<sub>s</sub>-coupled GPCR signalling in AgRP neurons triggers sustained increase in food intake. *Nat.Commun.* **8** 10268. PMID: 26743492.

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