

# Certificate of Analysis

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

**Catalog No.:** 6329

**Batch No.:** 1

**CAS Number:** 2250025-93-3

**IUPAC Name:** 8-Chloro-11-(4-methyl-4-oxido-1-piperazinyl)-5H-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.H<sub>2</sub>O

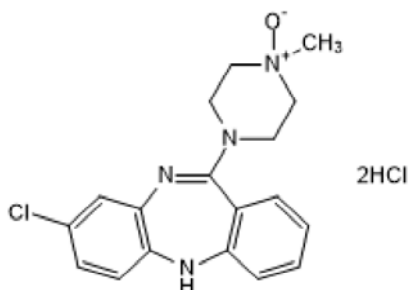
**Batch Molecular Weight:** 433.76

**Physical Appearance:** Yellow solid

**Solubility:** water to 100 mM  
DMSO to 100 mM

**Storage:** Desiccate at RT

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.5 (Dichloromethane:Methanol [9:1])

**HPLC:** Shows 99.5% purity

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

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	49.84	5.34	12.92
Found	49.71	5.38	12.84

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**bio-techne.com**

info@bio-techne.com

techsupport@bio-techne.com

**North America**

Tel: (800) 343 7475

**China**

info.cn@bio-techne.com

Tel: +86 (21) 52380373

**Europe Middle East Africa**

Tel: +44 (0)1235 529449

**Rest of World**

[www.tocris.com/distributors](http://www.tocris.com/distributors)

Tel: +1 612 379 2956

## Product Information

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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:

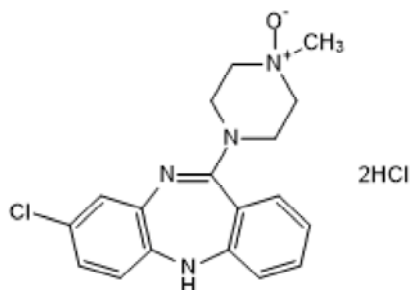
Batch Molecular Formula: C<sub>18</sub>H<sub>19</sub>ClN<sub>4</sub>O.2HCl.H<sub>2</sub>O

Batch Molecular Weight: 433.76

Physical Appearance: Yellow 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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