bio-techne
TOCRIS

Print Date: Apr 5th 2024

Certificate of Analysis

www.tocris.com

Product Name: **Clozapine *N*-oxide** **Catalog No.: 4936** **Batch No.: 18**

CAS Number: 34233-69-7

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

1. PHYSICAL AND CHEMICAL PROPERTIES

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

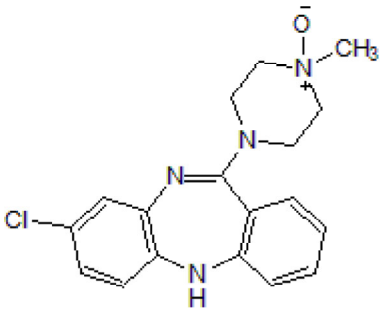
Batch Molecular Weight: 356.33

Physical Appearance: Yellow solid

Solubility: DMSO to 20 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.8% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	60.67	5.8	15.72
Found	60.3	5.77	15.55

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
Tel:+1 612 379 2956

Product Name: **Clozapine *N*-oxide** **Catalog No.: 4936** **18**

CAS Number: 34233-69-7

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

Description:

Clozapine N-oxide is a synthetic ligand for human muscarinic engineered receptors, designer receptors activated by designer drugs (DREADD). Binds and activates hM_3D_q and hM_4D_i DREADDs in vitro and in vivo. Metabolite of Clozapine (Cat. No. 0444). Shown to be a P-glycoprotein (P-gp) efflux pump substrate. Example Applications of Clozapine N-oxide (CNO): Silences hippocampal neurons expressing hM_4D_i DREADDs in vitro Inhibits locomotor activity of mice expressing hM_3D_q in GABAergic VTA neurons Inhibits short term memory retrieval in mice expressing hM_4D_i in hippocampal neurons Induces heat and mechanical hypersensitivity in mice expressi... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

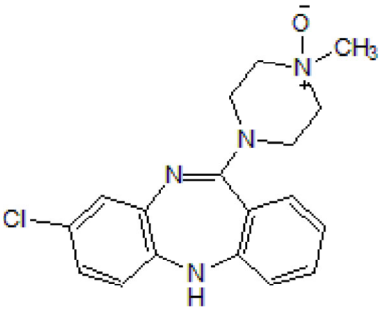
Batch Molecular Formula: $C_{18}H_{19}ClN_4O.¾H_2O$

Batch Molecular Weight: 356.33

Physical Appearance: Yellow solid

Minimum Purity: ≥99%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

DMSO to 20 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:

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.

Roth (2016) DREADDs for Neuroscientists. Neuron ***89*** 683. PMID: 26889809.