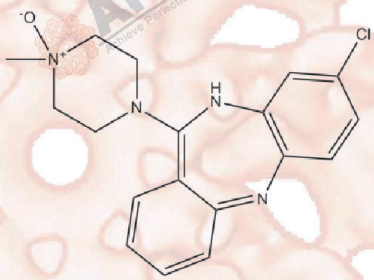
Product Data Sheet

Clozapine N-oxide (CNO)

Cat. No.: A3317
CAS No.: 34233-69-7
Formula: C18H19ClN4O
M.Wt: 342.82
Synonyms: CNO
Target: 5-HT Receptor
Pathway: Neuroscience
Storage: Store at -20°C



Solvent & Solubility

insoluble in EtOH and H2O; ≥17.15 mg/mL in DMSO

In Vitro — Preparing Stock Solutions

Concentration \ Mass / Solvent	1mg	5mg	10mg
1 mM	2.9170 mL	14.5849 mL	29.1698 mL
5 mM	0.5834 mL	2.9170 mL	5.8340 mL
10 mM	0.2917 mL	1.4585 mL	2.9170 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	Metabolite of clozapine, used in chemogenetics.
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	Rat cortical cells
Preparation method:	The solubility of this compound in DMSO is > 10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions:	24 h, 200 ng/ml

	Applications:	Clozapine N-oxide (CNO) is one of major metabolites of clozapine. It significantly reduced the 5-HT2 receptor density in rat cortical cells[1]. In rat choroid plexus, clozapine-N-oxide inhibited phosphoinositide hydrolysis stimulated by 5-HT[2].
In Vivo	**Animal experiment**	
	Dosage form:	At 8:00 a.m. 100 mg clozapine N-oxide in powdered form wrapped in a piece of wrapped wafer
	Applications:	When administered clozapine, mean clozapine N-oxide plasma concentrations were slightly lower than the other clozapine metabolite desmethylclozapine at the 12 hour time point. When clozapine N-oxide was administered, plasma concentrations of clozapine at the 12 hour time point were twice the amount of clozapine N-oxide. After clozapine N-oxide administration, only one patient had detectable plasma desmethylclozapine levels.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Anderson AG, Gaffy CB, et al. "Inhibition of Epstein-Barr Virus Lytic Reactivation by the Atypical Antipsychotic Drug Clozapine." Viruses. 2019 May 17;11(5). pii: E450.PMID:31108875

2. Laura A DeNardo, Cindy D Liu, et al."Temporal Evolution of Cortical Ensembles Promoting Remote Memory Retrieval." bioRxiv. 2018 April 5.

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References

[1]. Heiser P, Schulte E, Hausmann C, et al. Effects of clozapine and its metabolites on the 5-HT 2 receptor system in cortical and hippocampal cells in vitro[J]. Progress In Neuro-psychopharmacology and Biological Psychiatry, 2004, 28(2): 297-302.

[2]. Kuoppamki M, Syvlahti E, Hietala J. Clozapine and N-desmethylclozapine are potent 5-HT1C receptor antagonists[J]. European Journal of Pharmacology: Molecular Pharmacology, 1993, 245(2): 179-182.

[3].Chang W H, Lin S K, Lane H Y, et al. Reversible metabolism of clozapine and clozapine N-oxide in schizophrenic patients[J]. Progress in Neuro-Psychopharmacology and Biological Psychiatry, 1998, 22(5): 723-739.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage

temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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