

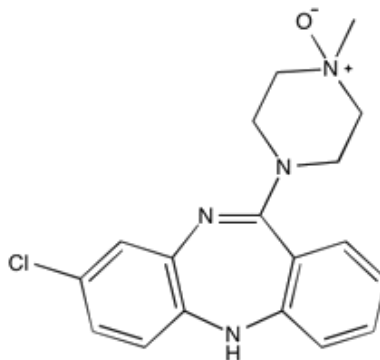
**Catalog # 10-2578**

**Clozapine-N-oxide**

CAS# 34233-69-7

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

Lot # FBA4051



Clozapine metabolite<sup>1</sup> which is pharmacologically inert<sup>2</sup>. Agonist at human muscarinic designer receptors known as DREADDs, (designer receptors exclusively activated by designer drug).<sup>2</sup> May be used to control grafted human pluripotent stem cell-derived neurons engineered to express DREADDs.<sup>3,4</sup> Numerous other applications.<sup>5,6</sup>

- 1) Eiermann *et al.* (1997), *The involvement of CYP1A2 and CYP3A4 in the metabolism of clozapine*; Br. J. Clin. Pharmacol., **44** 439
- 2) Armbruster *et al.* (2007), *Evolving the lock to fit the key to create a family of G protein-coupled receptors potently activated by an inert ligand*; Proc. Natl. Acad. Sci. USA, **104** 5163
- 3) Chen *et al.* (2016), *Chemical Control of Grafted Human PSC-Derived Neurons in a Mouse Model of Parkinson's Disease*; Cell Stem Cell, **18** 817
- 4) Vazey and Aston-Jones (2014), *Designer receptors: therapeutic adjuncts to cell replacement therapy in Parkinson's disease*; J. Clin. Invest., **124** 2858
- 5) Gomez *et al.* (2017) *Chemogenetics revealed: DREADD occupancy and activation via converted clozapine*; Science **357** 503
- 6) Marcinkiewicz *et al.* (2016) *Serotonin engages an anxiety and fear-promoting circuit in the extended amygdala*; Nature **537** 97

**PHYSICAL DATA**

Molecular Weight:	342.82
Molecular Formula:	C <sub>18</sub> H <sub>19</sub> ClN <sub>4</sub> O
Purity:	98% by TLC
	NMR: (Conforms)
Solubility:	DMSO (up to 15 mg/ml) or Ethanol (up to 3 mg/ml)
Physical Description:	Yellow solid
Storage and Stability:	Store as supplied, desiccated at -20°C for up to 1 year from the date of purchase. Solutions in DMSO or ethanol may be stored at -20°C for up to 3 months.

**Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.**