Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Clozapine (N-oxide)

Catalog No: tcsc1618

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
34233-69-7

Formula:
$C_{18}H_{19}ClN_4O$

Pathway:
Neuronal Signaling;GPCR/G Protein;Metabolic Enzyme/Protease

Target:
5-HT Receptor;5-HT Receptor;Drug Metabolite

Purity / Grade:
>98%

Solubility:
DMSO : 50 mg/mL (145.85 mM; Need ultrasonic); Methanol : ≥ 28.6 mg/mL (83.43 mM)

Observed Molecular Weight:
342.82

Product Description

Clozapine N-oxide (CNO) is a major metabolite of the anti-psychotic drug clozapine. Clozapine N-oxide is a agonist for the

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chemogenetic Designer Receptors Exclusively Activated by Designer Drug (**DREADD**) system.

IC50 & Target: DREADD[1]

In Vivo: After a single intraperitoneal (i.p.) injection of Clozapine N-oxide (1 mg/kg) into mice, Clozapine N-oxide (CNO) plasma levels peak at 15 min and are very low after 2 h. Acutely administered CNO can be metabolically converted to Clozapine in other species such as human and guinea-pig. The metabolites that may form after chronic administration of CNO to DREADD-expressing mice (or other species) have not been studied systematically. However, even if back-transformation to Clozapine occurs after chronic CNO administration, it should be noted that Clozapine is a more potent (by ~10-fold) DREADD agonist than CNO itself. Moreover, confounding biological effects of potential CNO metabolites can be easily identified by including both saline- and CNO-treated WT animals in a particular DREADD study. Despite the short plasma half-life of CNO in mice, the biological effects that have been described after acute treatment of DREADD-expressing experimental animals are usually much longer (6-10 h). One possibility is that CNO tends to accumulate in tissues, although other scenarios are also feasible[1]. Using a general pharmacokinetic model for the interconversion process, the mean total clearances of Clozapine and Clozapine N-oxide (CNO) are 28.45 L/hr and 45.30 L/hr, respectively[2].