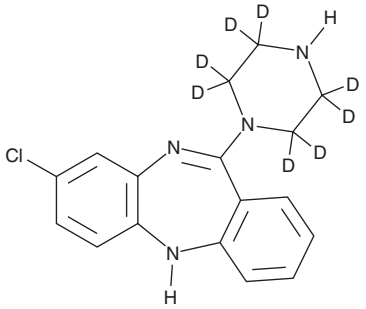
PRODUCT INFORMATION

N-Desmethylclozapine-d_8

Item No. 26027

CAS Registry No.:	1189888-77-4
Formal Name:	8-chloro-11-(piperazin-1-yl-2,2,3,3,5,5,6,6-d_8)-5H-dibenzo[b,e][1,4]diazepine
Synonym:	Norclozapine-d_8
MF:	$C_{17}H_9ClD_8N_4$
FW:	320.9
Chemical Purity:	≥98% (N-Desmethylclozapine)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_8); ≤1% d_0
UV/Vis.:	λ_{max}: 229, 260, 297 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

N-Desmethylclozapine-d_8 is intended for use as an internal standard for the quantification of N-desmethylclozapine by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

N-Desmethylclozapine-d_8 is supplied as a solid. A stock solution may be made by dissolving the N-desmethylclozapine-d_8 in the solvent of choice, which should be purged with an inert gas. N-Desmethylclozapine-d_8 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of N-desmethylclozapine-d_8 in ethanol is approximately 5 mg/ml and approximately 10 mg/ml in DMSO and DMF.

Description

N-Desmethylclozapine is an active metabolite of the atypical antipsychotic clozapine (Item Nos. 12059 | 25779).[1] It was originally described as an antagonist of serotonin (5-HT) receptor subtype 5-HT_{2C} (IC_{50} = 7.1 nM in rat choroid plexus) and later as an inverse agonist using human recombinant receptors.[2,3] N-Desmethylclozapine is an antagonist at dopamine D_4 receptors, an agonist at δ-opioid receptors, and a partial agonist at dopamine D_2 and D_3, M_1 muscarinic acetylcholine, and 5-HT_{1A} receptors.[1,3,4] N-Desmethylclozapine (30 mg/kg) decreases exploratory locomotor activity and increases prepulse inhibiton of the acoustic startle response in mice.[5]

References

1. Burstein, E.S., Ma, J., Wong, S., *et al. J. Pharmacol. Exp. Ther.* **315(3)**, 1278-1287 (2005).
2. Kuoppamäki, M., Syvälahti, E., and Hietala, J. *Eur. J. Pharmacol.* **245(2),** 179-182 (1993).
3. Lameh, J., Burstein, E.S., Taylor, E., *et al. Pharmacol. Ther.* **115(2),** 223-231 (2007).
4. Odagaki, Y., Kinoshita, M., and Ota, T. *J. Psychopharmacol.* **30(9),** 896-912 (2016).
5. Maehara, S., Hikichi, H., and Ohta, H. *Brain Res.* **1418,** 111-119 (2011).

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