Clozapine-d₄
Item No. 17513

CAS Registry No.: 204395-52-8
Formal Name: 8-chloro-11-(4-methyl-1-piperazinyl-d₄)-5H-dibenzo[b,e][1,4]diazepine
Synonyms: Azaleptin-d₄, Fazaclo-d₄, HF 1854-d₄, Iprox-d₄, Sizopin-d₄
MF: C₁₈H₁₅D₄ClN₄
FW: 330.9
Chemical Purity: ≥98% Clozapine
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Stability: ≥2 year at -20°C
Supplied as: A solution in ethanol
UV/Vis: λₘₐₓ: 212, 228, 258 nm

Laboratory Procedures
Clozapine-d₄ contains four deuterium atoms located on the piperazinyl ring. It is intended for use as an internal standard for the quantification of clozapine (Item No. 12059) by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that clozapine-d₄ be stored as supplied at -20°C. It should be stable for at least two years.

Clozapine-d₄ is supplied as a solution in ethanol. To change the solvent, simply evaporate the clozapine-d₄ under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of clozapine-d₄ in ethanol is approximately 5 mg/ml and approximately 10 mg/ml in DMSO and DMF.

Clozapine-d₄ is used as an internal standard for the quantification of clozapine by stable isotope dilution 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).

Clozapine is a partial agonist at the 5-HT₁₅ receptor (pKᵢ = 7) and interferes to a lesser extent with the binding of dopamine at D₁, D₂, D₃, and D₄ receptors, yet has a high affinity for the D₅ receptor. It is also a strong antagonist at different subtypes of adrenergic, cholinergic, and histaminergic receptors. Clozapine induces the release of glutamate and D-serine, an agonist at the glycine site of the NMDA receptor, from astrocytes, and reduces the expression of astrocytic glutamate transporters.

References

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/17513

WARNING: This product is for laboratory research only; not for administration to humans. Not for human or veterinary diagnostic or therapeutic use.

SafETY DATA
This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent to your institution. 

WARRANTY AND LIMITATION OF REMEDY
Cayman Chemical Company makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed above their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees. Buyer’s exclusive remedy and Cayman’s sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman’s option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.