

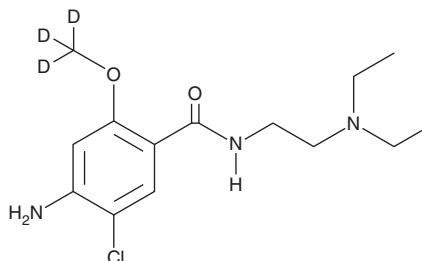
PRODUCT INFORMATION



Metoclopramide-d₃

Item No. 28885

CAS Registry No.: 1216522-89-2
Formal Name: 4-amino-5-chloro-N-(2-(diethylamino)ethyl)-2-(methoxy-d₃)benzamide
MF: C₁₄H₁₉ClD₃N₃O₂
FW: 302.8
Chemical Purity: ≥98% (Metoclopramide)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀
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

Metoclopramide-d₃ is intended for use as an internal standard for the quantification of metoclopramide (Item No. 23360) 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).

Metoclopramide-d₃ is supplied as a solid. A stock solution may be made by dissolving the metoclopramide-d₃ in the solvent of choice, which should be purged with an inert gas. Metoclopramide-d₃ is slightly soluble in organic solvents such as methanol and chloroform.

Description

Metoclopramide-d₃ is intended for use as an internal standard for the quantification of metoclopramide (Item Nos. 39844 | 23360) by GC- or LC-MS. Metoclopramide is a dual antagonist of the serotonin (5-HT) receptor subtype 5-HT₃ and dopamine D₂ receptor (IC₅₀s = 308 and 483 nM, respectively).¹ It also reversibly inhibits acetylcholinesterase (AChE) isolated from human postmortem caudate nucleus (K_is = 9.3 and 82 μM for competitive and non-competitive inhibition, respectively).² Oral administration of metoclopramide inhibits emesis induced by the DNA cross-linking agent cisplatin (Item No. 13119) in ferrets (ED₅₀ = 6,170 μg/kg) and the dopamine receptor agonist apomorphine in dogs (ED₅₀ = 0.45 mg/kg).^{1,3} Metoclopramide also inhibits apomorphine-induced climbing and stereotypy in mice (ED₅₀s = 2.2 and 6.5 mg/kg, respectively).⁴ Formulations containing metoclopramide have been used in the treatment of gastroesophageal reflux disease (GERD) and diabetic gastroparesis.

References

1. Hirokawa, Y., Harada, H., Yoshikawa, T., *et al.* *Chem. Pharm. Bull. (Tokyo)* **50(7)**, 941-959 (2002).
2. Chemnitz, J.M., Haselmeyer, K.H., Gonska, B.D., *et al.* *Pharmacol. Res.* **34(1-2)**, 65-72 (1996).
3. Youssefyeh, R.D., Campbell, H.F., Klein, S., *et al.* *J. Med. Chem.* **35(5)**, 895-903 (1992).
4. Altar, C.A., Boyar, W.C., Wasley, A., *et al.* *Naunyn Schmiedebergs Arch. Pharmacol.* **338(2)**, 162-168 (1988).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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