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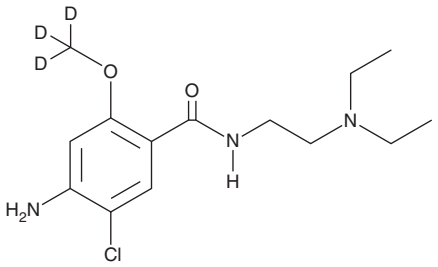
PRODUCT INFORMATION

Metoclopramide-d_3

Item No. 28885

CAS Registry No.: 1216522-89-2
Formal Name: 4-amino-5-chloro-N-(2-(diethylamino) ethyl)-2-(methoxy-d_3)benzamide
MF: $C_{14}H_{19}ClD_3N_3O_2$
FW: 302.8
Chemical Purity: ≥98% (Metoclopramide)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_3); ≤1% d_0
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Metoclopramide-d_3 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-d_3 is supplied as a solid. A stock solution may be made by dissolving the metoclopramide-d_3 in the solvent of choice, which should be purged with an inert gas. Metoclopramide-d_3 is slightly soluble in organic solvents such as methanol and chloroform.

Description

Metoclopramide is an orally bioavailable serotonin (5-HT) receptor 5-HT_3 antagonist with K_i and IC_{50} values of 995 and 308 nM, respectively, in rat cortical membranes.[1,2] It is also a dopamine D_2 receptor antagonist (IC_{50} = 483 nM in rat brain synaptic membranes).[2] Oral administration of metoclopramide inhibits emesis induced by cisplatin (Item No. 13119) and apomorphine (Item No. 16094) in ferrets and dogs with ED_{50} values of 6.17 and 0.45 mg/kg, respectively.[1,2] Metoclopramide reversibly inhibits human acetylcholinesterase (AChE) isolated from the caudate nucleus (K_is = 9.3 and 82 µM for competitive and non-competitive inhibition, respectively).[3] Formulations containing metoclopramide have been used as anti-emetic and antipsychotic agents.[4,5]

References

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2. Hirokawa, Y., Harada, H., Yoshikawa, T., *et al. Chem. Pharm. Bull. (Tokyo)* **50(7)**, 941-959 (2002).
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4. Harrington, R.A., Hamilton, C.W., Brogden, R.N., *et al. Drugs* **25(5)**, 451-494 (1983).
5. Altar, C.A., Boyar, W.C., Wasley, A., *et al. Naunyn Schmiedebergs Arch. Pharmacol.* **338(2)**, 162-168 (1988).

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