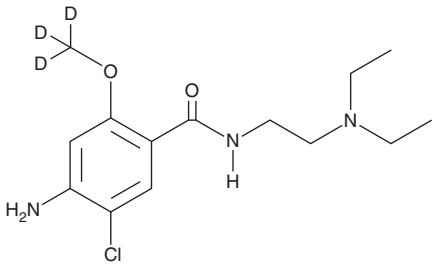
PRODUCT INFORMATION

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:	≥4 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-d_3 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-HT_3 and dopamine D_2 receptor (IC_{50}s = 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 (ED_{50} = 6,170 µg/kg) and the dopamine receptor agonist apomorphine in dogs (ED_{50} = 0.45 mg/kg).[1,3] Metoclopramide also inhibits apomorphine-induced climbing and stereotypy in mice (ED_{50}s = 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. Chemnitius, 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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM