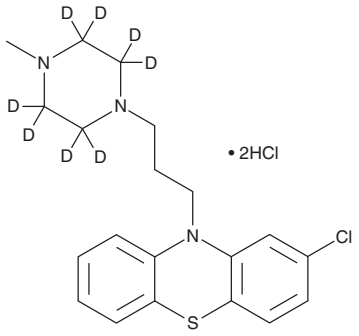
PRODUCT INFORMATION

Prochlorperazine-d_8 (hydrochloride)

Item No. 31916



CAS Registry No.:	2930627-64-6
Formal Name:	2-chloro-10-[3-(4-methyl-1-piperazinyl-d_8) propyl]-10H-phenothiazine, dihydrochloride
MF:	$C_{20}H_{16}ClD_8N_3S \bullet 2HCl$
FW:	454.9
Chemical Purity:	≥98% (Prochlorperazine)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_8); ≤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

Prochlorperazine-d_8 (hydrochloride) is intended for use as an internal standard for the quantification of prochlorperazine (Item No. 20742) 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).

Prochlorperazine-d_8 (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the prochlorperazine-d_8 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Prochlorperazine-d_8 (hydrochloride) is soluble in DMSO.

Description

Prochlorperazine is a dopamine D_2 receptor antagonist with K_i values of 4.7 and 2.9 nM for rat recombinant D_2 receptors in CHO cells and rat striatal membranes, respectively.[1,2] It also binds to rat recombinant D_3 receptors expressed in CHO cells (K_i = 35 nM) and to the serotonin (5-HT) receptor subtype 5-HT_3 in N1E-115 mouse neuroblastoma cell membranes (K_i = 1,200 nM).[1,3] Prochlorperazine (2 mg/kg) increases the latency to paw licking in a hot plate test, indicating analgesia, an effect that is blocked by antisense oligonucleotides against the M_1 muscarinic receptor.[4] It also inhibits emesis induced by apomorphine (Item No. 16094) in dogs (ED_{50} = 0.34 mg/kg).[5] Formulations containing prochlorperazine have been used in the treatment of psychotic disorders and as antiemetics.

References

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2. Tsuchihashi, H., Sasaki, T., Kojima, S., *et al.* Binding of [^{3}H]haloperidol to dopamine D_2 receptors in the rat striatum. *J. Pharm. Pharmacol.* **44(11)**, 911-914 (1992).
3. Lummis, S.C. and Baker, J. Radioligand binding and photoaffinity labelling studies show a direct interaction of phenothiazines at 5-HT_3 receptors. *Neuropharmacology* **36(4-5)**, 665-670 (1997).
4. Ghelardini, C., Galeotti, N., Uslenghi, C., *et al.* Prochlorperazine induces central antinociception mediated by the muscarinic system. *Pharmacol. Res.* **50(3)**, 351-358 (2004).
5. Niemegeers, C.J.E. Antiemetic specificity of dopamine antagonists. *Psychopharmacology (Berl).* **78(3)**, 210-213 (1982).

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