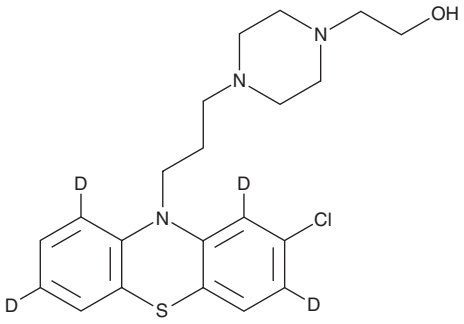
PRODUCT INFORMATION

Perphenazine-d_4

Item No. 33298

CAS Registry No.:	155593-75-2
Formal Name:	4-[3-(2-chloro-10H-phenothiazin-10-yl-1,3,7,9-d_4)propyl]-1-piperazineethanol
MF:	$C_{21}H_{22}ClD_4N_3OS$
FW:	408.0
Chemical Purity:	≥95% (Perphenazine)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_4); ≤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

Perphenazine-d_4 is intended for use as an internal standard for the quantification of perphenazine (Item No. 20735) 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).

Perphenazine-d_4 is supplied as a solid. A stock solution may be made by dissolving the perphenazine-d_4 in the solvent of choice, which should be purged with an inert gas. Perphenazine-d_4 is soluble in methanol.

Description

Perphenazine is a typical antipsychotic.[1] It binds to dopamine D_2, α_{1A}-, α_{2A}-, α_{2B}-, and α_{2C}-adrenergic, M_3 muscarinic, and histamine H_1 receptors (K_is = 1.4, 10, 1,848, 104.9, 85.2, 810.5 and 8 nM, respectively), as well as the serotonin (5-HT) receptor subtypes 5-HT_{1A}, 5-HT_{2A}, 5-HT_{2C}, 5-HT_6, and 5-HT_7 (K_is = 421, 5.6, 132, 17, and 23 nM, respectively). Perphenazine (1, 5, and 10 mg/kg) enhances morphine-induced analgesia in the tail-flick and hot plate tests in rats.[2] It reduces cannibalism in female mice when administered at doses of 2 and 4 mg/kg.[3] Formulations containing perphenazine have been used in the treatment of schizophrenia and psychosis.

References

1. Kroeze, W.K., Hufeisen, S.J., Popadak, B.A., *et al.* H1-histamine receptor affinity predicts short-term weight gain for typical and atypical antipsychotic drugs. *Neuropsychopharmacology* **28(3)**, 519-526 (2003).
2. Ozdemir, E., Bagcivan, I., and Gursoy, S. Role of D_1/D_2 dopamin receptors antagonist perphenazine in morphine analgesia and tolerance in rats. *Bosn. J. Basic Med. Sci.* **13(2)**, 119-125 (2013).
3. Carter, D.B., Kennett, M.J., and Franklin, C.L. Use of perphenazine to control cannibalism in DBA/1 mice. *Comp. Med.* **52(5)**, 452-455 (2002).

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