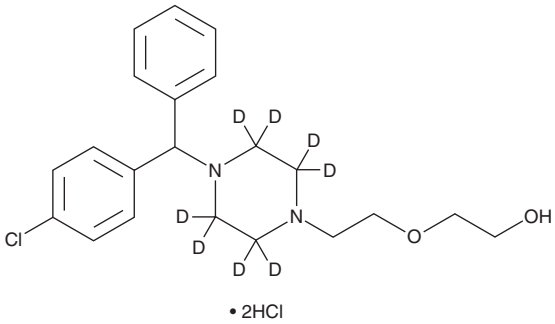
PRODUCT INFORMATION

Hydroxyzine-d_8 (hydrochloride)

Item No. 30739

CAS Registry No.:	1808202-93-8
Formal Name:	2-[2-[4-[(4-chlorophenyl)phenylmethyl]-1-piperazinyl-d_8]ethoxy]-ethanol, dihydrochloride
MF:	$C_{21}H_{19}ClD_8N_2O_2 \bullet 2HCl$
FW:	455.9
Chemical Purity:	≥95% (Hydroxyzine)
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

Hydroxyzine-d_8 (hydrochloride) is intended for use as an internal standard for the quantification of hydroxyzine (Item No. 24039) 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).

Description

Hydroxyzine is a histamine H_1 receptor antagonist (K_i = 1.9 nM).[1] It binds competitively with the H_1 receptor inverse agonist mepyramine (Item No. 20978) with an IC_{50} value of 80 µM in polymorphonuclear leukocytes.[2] *In vivo*, it is metabolized to the H_1 receptor antagonist cetirizine (Item No. 19686).[3] *In situ*, hydroxyzine (10 µM) prevents recruitment of rolling leukocytes induced by histamine in rat mesentery post-capillary venules.[4] Hydroxyzine also decreases anxiety-like behavior in mice, increasing the time spent in the open arms of the elevated plus maze and in the light side of the light-dark exploration test.[5] Formulations containing hydroxyzine have been used in the treatment of anxiety and as antihistamines in the treatment of allergic rhinitis.

References

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2. Wescott, S. and Kaliner, M. Histamine H_1 binding site on human polymorphonuclear leukocytes. *Inflammation* **7(3)**, 291-300 (1983).
3. Obach, R.S. Pharmacologically active drug metabolites: Impact on drug discovery and pharmacotherapy. *Pharmacol. Rev.* **65(2)**, 578-640 (2013).
4. Asako, H., Kurose, I., Wolf, R., *et al.* Role of H_1 receptors and P-selectin in histamine-induced leukocyte rolling and adhesion in postcapillary venules. *J. Clin. Invest.* **93(4)**, 1508-1515 (1994).
5. Sawantdesai, N.S., Kale, P.P., and Savai, J. Evaluation of anxiolytic effects of aripiprazole and hydroxyzine as a combination in mice. *J. Basic Clin. Pharm.* **7(4)**, 97-104 (2016).

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