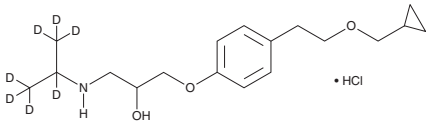
PRODUCT INFORMATION

Betaxolol-d_7 (hydrochloride)

Item No. 39815

CAS Registry No.: 1219802-92-2
Formal Name: 1-(4-(2-(cyclopropylmethoxy)ethyl)phenoxy)-3-((propan-2-yl-d_7)amino)propan-2-ol, monohydrochloride
MF: $C_{18}H_{22}D_7NO_3 \bullet HCl$
FW: 350.9
Chemical Purity: ≥98% (Betaxolol)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_7); ≤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

Betaxolol-d_7 (hydrochloride) is intended for use as an internal standard for the quantification of betaxolol (Item No. 18625) 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).

Betaxolol-d_7 (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the betaxolol-d_7 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Betaxolol-d_7 (hydrochloride) is slightly soluble in chloroform and methanol.

Description

Betaxolol is an antagonist of the β_1-adrenergic receptor (β_1-AR; K_i = 23 nM).[1] It is selective for the β_1-AR over the β_2-AR (K_i = 790 nM). Betaxolol is cytotoxic to 10.014 pRSV-T human corneal epithelial cells.[2] It reduces intraocular pressure in cynomolgus monkeys with ocular hypertension induced by laser trabeculoplasty when administered at a dose of 150 µg/animal.[3] Betaxolol also inhibits sodium influx induced by the neurotoxin veratridine in rat cortical synaptosomes (IC_{50} = 28.3 µM).[4]

References

1. Wellstein, A., Palm, D., and Belz, G.G. Affinity and selectivity of β-adrenoceptor antagonists *in vitro*. *J. Cardiovasc. Pharmacol.* **8(Suppl. 11)**, S36-S40 (1986).
2. Pozarowska, D., Pozarowski, P., and Darzynkiewicz, Z. Cytometric assessment of cytostatic and cytotoxic effects of topical glaucoma medications on human epithelial corneal line cells. *Cytometry B Clin. Cytom.* **78(2)**, 130-137 (2010).
3. Sharif, N.A., Xu, S.X., Crider, J.Y., *et al*. Levobetaxolol (Betaxon™) and other β-adrenergic antagonists: Preclinical pharmacology, IOP-lowering activity and sites of action in human eyes. *J. Ocul. Pharmacol. Ther.* **17(4)**, 305-317 (2001).
4. Chidlow, G., Melena, J., and Osborne, N.N. Betaxolol, a β_1-adrenoceptor antagonist, reduces Na^+ influx into cortical sunaptosomes by direct interaction with Na^+ channels: Comparison with other β-adrenoceptor antagonists. *Br. J. Pharmacol.* **130(4)**, 759-766 (2000).

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