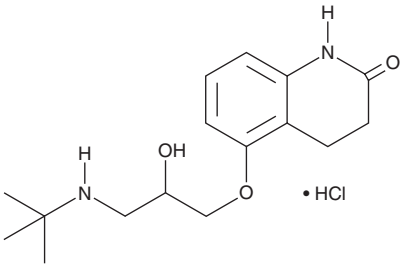
PRODUCT INFORMATION

Carteolol (hydrochloride)

Item No. 23758

CAS Registry No.:	51781-21-6
Formal Name:	5-[3-[(1,1-dimethylethyl)amino]-2-hydroxypropoxy]-3,4-dihydro-2(1H)-quinolinone, monohydrochloride
Synonyms:	NSC 300906, OPC 1085
MF:	$C_{16}H_{24}N_2O_3$ • HCl
FW:	328.8
Purity:	≥98%
UV/Vis.:	λ_{max}: 217, 251 nm
Supplied as:	A crystalline 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

Carteolol (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the carteolol (hydrochloride) in the solvent of choice. Carteolol (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of carteolol (hydrochloride) in these solvents is approximately 11, 16, and 14 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of carteolol (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of carteolol (hydrochloride) in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Carteolol is an antagonist of β-adrenergic receptors (K_d = 13 nM).[1,2] It blocks isoproterenol-induced increases in heart rate, contractile force, and blood pressure in vagotomized dogs (ED_{50}s = 2.3, 3.1, and 1.8 µg/kg, respectively).[3] The (R) and (S)-enantiomers of carteolol reduce intraocular pressure to similar levels in rabbits when applied topically as a 1% solution.[4] Formulations containing carteolol have been used in the treatment of open-angle glaucoma.

References

1. Takayanagi, I., Ogishima, M., Koike, K., *et al.* Dose difference in beta-adrenergic blockers with intrinsic sympathomimetic action to block beta-adrenoceptors and induce sympathomimetic action. *Gen. Pharmacol.* **20(4)**, 417-419 (1989).
2. Gwathmey, J.K., Kim, C.S., Haijar, R.J., *et al.* Cellular and molecular remodeling in a heart failure model treated with the β-blocker carteolol. *Am. J. Physiol.* **276(5 Pt. 2)**, H1678-H1690 (1999).
3. Yabuochi, Y. and Kinoshita, D. Cardiovascular studies of 5-(3-tert-butylamino-2-hydroxy) propoxy-3,4-dihydrocarbostyril hydrochloride (OPC-1085), a new potent β-adrenergic blocking agent. *Jpn. J. Pharmacol.* **24(6)**, 853-861 (1974).
4. Takayanagi, I., Haiwara, H., Koike, K., *et al.* Effects of the R(+)- and S(-)-isomers of β-adrenoceptor blockers with intrinsic sympathomimetic activity, befunolol and carteolol, on rabbit intraocular pressure. *Can. J. Physiol. Pharmacol.* **69(8)**, 1243-1245 (1991).

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