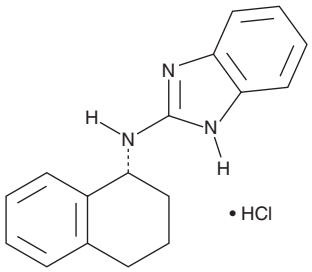
PRODUCT INFORMATION

NS 8593 (hydrochloride)

Item No. 29774

CAS Registry No.:	875755-24-1
Formal Name:	N-[(1R)-1,2,3,4-tetrahydro-1-naphthalenyl]-1H-benzimidazol-2-amine, monohydrochloride
MF:	$C_{17}H_{17}N_3$ • HCl
FW:	299.8
Purity:	≥98%
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

NS 8593 (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the NS 8593 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. NS 8593 (hydrochloride) is soluble in organic solvents such as ethanol and DMSO. The solubility of NS 8593 (hydrochloride) in these solvents is approximately 20 and 100 mM, respectively.

Description

NS 8593 is an inhibitory gating modifier of small-conductance calcium-activated potassium ($K_{Ca}2$/SK) channels (K_ds = 0.42, 0.6, and 0.73 µM for $K_{Ca}2.1$/SK1, $K_{Ca}2.2$/SK2, and $K_{Ca}2.3$/SK3, respectively, in the presence of calcium) that decreases the calcium sensitivity of SK channels.[1] It is selective for $K_{Ca}2$/SK channels over intermediate- ($K_{Ca}3.1$/$IK_{Ca}1$) and large-conductance (BK) potassium channels at 10 µM. NS 8593 induces relaxation of potassium- or acetylcholine chloride-precontracted isolated tracheal rings from wild-type mice (IC_{50}s = 8.9 and 39.8 µM, respectively) or from mice in an ovalbumin-induced model of allergic asthma (IC_{50}s = 16.4 and 32.2 µM, respectively).[2] It inhibits aerosolized acetylcholine chloride-induced increases in respiratory system resistance in mice when administered as an aerosol at a dose of 500 µM. NS 8593 (5 mg/kg) decreases the duration of burst-pacing-induced atrial fibrillation in normotensive and spontaneously hypertensive rats.[3]

References

1. Strøbaek, D., Hougaard, C., Johansen, T.H., *et al.* Inhibitory gating modulation of small conductance Ca^{2+}-activated K^+ channels by the synthetic compound (R)-N-(benzimidazol-2-yl)-1,2,3,4-tetrahydro-1-naphtylamine (NS8593) reduces afterhyperpolarizing current in hippocampal CA1 neurons. *Mol. Pharmacol.* **70(5)**, 1771-1782 (2006).
2. Liu, B.-B., Peng, Y.-B., Zhang, W.-J., *et al.* NS8593 inhibits Ca^{2+} permeant channels reversing mouse airway smooth muscle contraction. *Life Sci.* **238**, 116953 (2019).
3. Diness, J.G., Skibsbye, L., Jespersen, T., *et al.* Effects on atrial fibrillation in aged hypertensive rats by Ca^{2+}-activated K^+ channel inhibition. *Hypertension* **57(6)**, 1129-1135 (2011).

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