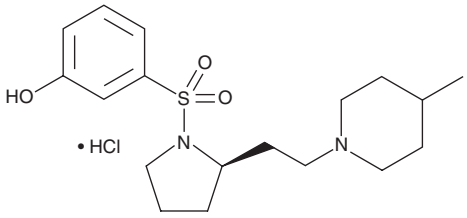
PRODUCT INFORMATION

SB-269970 (hydrochloride)

Item No. 17081

CAS Registry No.: 261901-57-9
Formal Name: 3-[[(2R)-2-[2-(4-methyl-1-piperidinyl)ethyl]-1-pyrrolidinyl]sulfonyl]-phenol, monohydrochloride
MF: $C_{18}H_{28}N_2O_3S \bullet HCl$
FW: 389.0
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 286 nm



Laboratory Procedures

For long term storage, we suggest that SB-269970 (hydrochloride) be stored as supplied at -20°C. It should be stable for at least two years.

SB-269970 (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the SB-269970 (hydrochloride) in the solvent of choice. SB-269970 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of SB-269970 (hydrochloride) is approximately 5 mg/ml in ethanol and approximately 50 mg/ml in DMSO and DMF.

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 SB-269970 (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of SB-269970 (hydrochloride) in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

The transduction of neurobehavioral effects by serotonin (5-hydroxy tryptamine; 5-HT) is mediated by at least seven major 5-HT receptor subtypes. SB-269970 is a potent 5-HT_{7A} antagonist (pK_i = 8.9) that demonstrates >50-fold binding selectivity over 5-HT_{5A} and >250-fold selectivity over 5-HT_1, 5-HT_2, 5-HT_4, 5-HT_6, adrenergic α_1, dopamine D_2, and dopamine D_3 receptors.[1] It is also reported to block adrenergic α_2 receptors in guinea pig vas deferens.[2] SB-269970 has been used to target the 5-HT_7 receptor in the study of schizophrenia-like cognitive deficits.[3]

References

1. Lovell, P.J., Bromidge, S.M., Dabbs, S., *et al*. A novel, potent, and selective 5-HT_7 antagonist: (R)-3-(2-(2-(4-Methylpiperidin-1-yl)ethyl)pyrrolidine-1-sulfonyl) phenol (SB-269970). *J. Med. Chem.* **43(3)**, 342-345 (2000).
2. Foong, J.P.P. and Bornstein, J.C. 5-HT antagonists NAN-190 and SB 269970 block α_2-adrenoceptors in the guinea pig. *NeuroReport* **20(3)**, 325-330 (2009).
3. Nikiforuk, A., Kos, T., Fijal, K., *et al*. Effects of the selective 5-HT_7 receptor antagonist SB-269970 and amisulpride on ketamine-induced schizophrenia-like deficits in rats. *PLoS One* **8(6)**, 1-12 (2013).

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