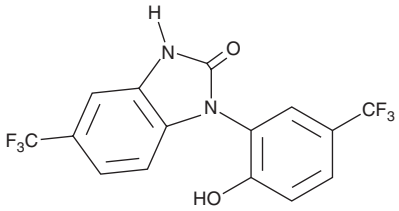
PRODUCT INFORMATION

NS 1619

Item No. 18876

CAS Registry No.:	153587-01-0
Formal Name:	1,3-dihydro-1-[2-hydroxy-5-(trifluoromethyl)phenyl]-5-(trifluoromethyl)-2H-benzimidazol-2-one
MF:	$C_{15}H_8F_6N_2O_2$
FW:	362.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 211, 283 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

NS 1619 is supplied as a crystalline solid. A stock solution may be made by dissolving the NS 1619 in the solvent of choice, which should be purged with an inert gas. NS 1619 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of NS 1619 in these solvents is approximately 30 mg/ml.

NS 1619 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, NS 1619 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. NS 1619 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

NS 1619 is a calcium-dependent activator of large-conductance calcium-activated potassium (K_{Ca}1.1/BK) channels in vascular smooth muscle.[1] It is typically used at a concentration of 30 µM to hyperpolarize the membrane potential of single myocytes during studies of smooth muscle relaxation and vasodilation.[2,3] Studies suggest that activation of K_{Ca}1.1/BK channels by NS 1619 can protect the cardiac muscle against pulmonary hypertension as well as ischemia and reperfusion injury in various animal models.[4,5]

References

1. Edwards, G., Niederste-Hollenberg, A., Schneider, J., *et al.* Ion channel modulation by NS 1619, the putative BK_{Ca} channel opener, in vascular smooth muscle. *Br. J. Pharmacol.* **113(4)**, 1538-1457 (1994).
2. Yamamura, H., Ohi, Y., Muraki, K., *et al.* BK channel activation by NS-1619 is partially mediated by intracellular Ca^{2+} release in smooth muscle cells of porcine coronary artery. *Br. J. Pharmacol.* **132(4)**, 828-834 (2001).
3. Holland, M., Langton, P.D., Standen, N.B., *et al.* Effects of the BK_{Ca} channel activator, NS1619, on rat cerebral artery smooth muscle. *Br. J. Pharmacol.* **117(1)**, 119-129 (1996).
4. Revermann, M., Neofitidou, S., Kirschning, T., *et al.* Inhalation of the BK_{Ca}-opener NS1619 attenuates right ventricular pressure and improves oxygenation in the rat monocrotaline model of pulmonary hypertension. *PLoS One* **9(1)**, (2014).
5. Xu, W., Liu, Y., Wang, S., *et al.* Cytoprotective role of Ca^{2+}- activated K^+ channels in the cardiac inner mitochondrial membrane. *Science* **298(5595)**, 1029-1033 (2002).

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