

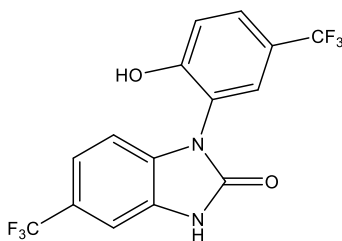
Catalog # 10-4643

NS 1619

CAS# 153587-01-0

1-(2-Hydroxy-5-(trifluoromethyl)phenyl)-5-(trifluoromethyl)-1H-benzo[d]imidazole-2(3H)-one

Lot # FBS3083



NS 1619 is a selective activator of large conductance Ca^{2+} -dependent potassium channels (BK_{Ca} or $K_{Ca1.1}$).^{1,2} It was able to increase blood-brain tumor barrier permeability in rat brain tumor models.^{3,4} NS 1619 inhibited proliferation and induced apoptosis in A2780 ovarian cancer cells.⁵ Displays cardioprotective effects in an ischemia-reperfusion model⁶ and neuroprotective effects in a traumatic brain injury model⁷.

- 1) Olesen *et al.* (1994), *Selective activation of Ca^{2+} -dependent K^+ channels by novel benzimidazolone*; Eur. J. Pharmacol. **251** 53
- 2) Sellers and Ashford (1994), *Activation of BK_{Ca} channels in acutely dissociated neurons from the rat ventromedial hypothalamus by NS 1619*; Br. J. Pharmacol. **113** 659
- 3) Ningaraj *et al.* (2002), *Regulation of blood-brain tumor barrier permeability by calcium-activated potassium channels*; J. Pharmacol. Exp. Ther. **301** 838
- 4) Ningaraj *et al.* (2009), *Modulation of K_{Ca} channels increases anticancer drug delivery to brain tumors and prolongs survival in xenograft model*; Cancer Biol. Ther. **8** 1924
- 5) Han *et al.* (2008), *The potassium ion channel opener NS1619 inhibits proliferation and induces apoptosis in A2780 ovarian cancer cells*; Biochem. Biophys. Res. Commun. **375** 205
- 6) Dai *et al.* (2017), *Preconditioning with the BK_{Ca} channel activator NS-1619 prevents ischemia-reperfusion-induced inflammation and mucosal barrier dysfunction: roles for ROS and heme oxygenase-1*; Am. J. Physiol. Heart Circ. Physiol. **313** H988
- 7) Gao *et al.* (2022), *NS1619 Alleviate Brain-Derived Extracellular Vesicle-Induced Brain Injury by Regulating BK_{Ca} Channel and Nrf2/HO-1/NK-kB Pathway*; Oxid. Med. Cell Longev. **2022** 2257427

PHYSICAL DATA

Molecular Weight:	362.23
Molecular Formula:	$C_{15}H_8F_6N_2O_2$
Purity:	98% by TLC
	NMR: (Conforms)
Solubility:	DMSO (>25 mg/ml)
Physical Description:	White solid
Storage and Stability:	Store as supplied at $-20^{\circ}C$ for up to 2 years from the date of purchase. Solutions in DMSO may be stored at $-20^{\circ}C$ for up to 3 months.

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