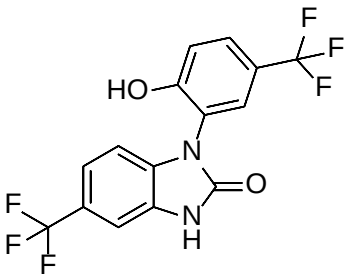
Product data sheet

MedKoo Cat#: 522714 Name: NS1619 CAS: 153587-01-0 Chemical Formula: $C_{15}H_8F_6N_2O_2$ Exact Mass: 362.049 Molecular Weight: 362.2314	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
NS1619 is a Bkca opener or large-conductance Ca2+-activated potassium (BKCa, KCa1.1) channel activator. NS1619 pretreatment protects against shock-induced vascular hyporeactivity through PDZ-Rho GEF-RhoA-Rho kinase pathway in rats. NS1619 modulates calcium homeostasis in muscle cells by inhibiting SERCA.NS1619 decreases myogenic and neurogenic contractions of rat detrusor smooth muscle.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	30.0	82.82
DMSO	42.31	117.11
DMSO:PBS (pH 7.2) (1:1)	0.5	1.38
Ethanol	46.07	127.19

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	2.76 mL	13.80 mL	27.61 mL
5 mM	0.55 mL	2.76 mL	5.52 mL
10 mM	0.28 mL	1.38 mL	2.76 mL
50 mM	0.06 mL	0.28 mL	0.55 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Han X, Xi L, Wang H, Huang X, Ma X, Han Z, Wu P, Ma X, Lu Y, Wang G, Zhou J, Ma D. The potassium ion channel opener NS1619 inhibits proliferation and induces apoptosis in A2780 ovarian cancer cells. Biochem Biophys Res Commun. 2008 Oct 17;375(2):205-9. doi: 10.1016/j.bbrc.2008.07.161. Epub 2008 Aug 13. PMID: 18706395.
2. Huang Y, Lau CW, Ho IH. NS 1619 activates Ca2+-activated K+ currents in rat vas deferens. Eur J Pharmacol. 1997 Apr 23;325(1):21-7. doi: 10.1016/s0014-2999(97)00102-7. PMID: 9151934.

In vivo study

1. Gao Y, Zhang H, Li X, Li L, Li F, Li T, Peng R, Wang C, Wang J, Liu X, Zhang S, Zhang J. NS1619 Alleviate Brain-Derived Extracellular Vesicle-Induced Brain Injury by Regulating BKca Channel and Nrf2/HO-1/NF-κB Pathway. Oxid Med Cell Longev. 2022 Nov 23;2022:2257427. doi: 10.1155/2022/2257427. PMID: 36466093; PMCID: PMC9711983.

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2. Wang X, Yin C, Xi L, Kukreja RC. Opening of Ca2+-activated K+ channels triggers early and delayed preconditioning against I/R injury independent of NOS in mice. Am J Physiol Heart Circ Physiol. 2004 Nov;287(5):H2070-7. doi: 10.1152/ajpheart.00431.2004. Epub 2004 Jun 24. PMID: 15217801.

7. Bioactivity

Biological target:

NS-1619 is an opener of large conductance Ca^{2+}-activated K^{+} (BK) channel.

In vitro activity

To explore the role of BK channels in regulation of apoptosis in human ovarian cancer cells, the effects of the specific BK channel activator NS1619 on induction of apoptosis in A2780 cells were observed. Following treatment with NS1619, cell proliferation was measured by MTT assay. Apoptosis of A2780 cells pretreated with NS1619 was detected by agarose gel electrophoresis of cellular DNA and flow cytometry.

Reference: Biochem Biophys Res Commun. 2008 Oct 17;375(2):205-9. https://pubmed.ncbi.nlm.nih.gov/18706395/

In vivo activity

Adult male ICR mice were pretreated with the KCa-channel opener NS-1619 either 10 min or 24 h before 30 min of global ischemia and 60 min of reperfusion (I/R) in Langendorff mode. Infusion of NS-1619 (10 microM) for 10 min before I/R led to smaller infarct sizes as compared with the vehicle (DMSO)-treated group ($P < 0.05$). This infarct-limiting effect of NS-1619 was associated with improvement in ventricular functional recovery after I/R.

Reference: Am J Physiol Heart Circ Physiol. 2004 Nov;287(5):H2070-7. https://pubmed.ncbi.nlm.nih.gov/15217801/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.