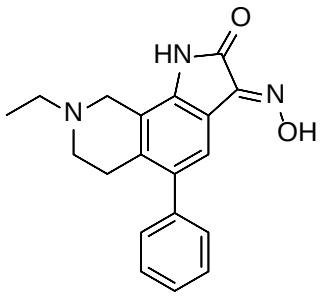
Product data sheet

MedKoo Cat#: 463295 Name: NS 383 CAS: 309711-59-9 Chemical Formula: $C_{19}H_{19}N_3O_2$ Exact Mass: 321.1477 Molecular Weight: 321.38	
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:
NS 383 is an ASIC blocker. Inhibition was observed at heteromeric ASIC channels. It attenuates pathophysiological nociceptive behaviors in CFA-inflamed and CCI rats.

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
DMSO	1.61	5.00

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.11 mL	15.56 mL	31.12 mL
5 mM	0.62 mL	3.11 mL	6.22 mL
10 mM	0.31 mL	1.56 mL	3.11 mL
50 mM	0.06 mL	0.31 mL	0.62 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

Munro G, Christensen JK, Erichsen HK, Dyhring T, Demnitz J, Dam E, Ahring PK. NS383 Selectively Inhibits Acid-Sensing Ion Channels Containing 1a and 3 Subunits to Reverse Inflammatory and Neuropathic Hyperalgesia in Rats. CNS Neurosci Ther. 2016 Feb;22(2):135-45. doi: 10.1111/cns.12487. Epub 2015 Dec 10. PMID: 26663905; PMCID: PMC6492852.

In vivo study

Munro G, Christensen JK, Erichsen HK, Dyhring T, Demnitz J, Dam E, Ahring PK. NS383 Selectively Inhibits Acid-Sensing Ion Channels Containing 1a and 3 Subunits to Reverse Inflammatory and Neuropathic Hyperalgesia in Rats. CNS Neurosci Ther. 2016 Feb;22(2):135-45. doi: 10.1111/cns.12487. Epub 2015 Dec 10. PMID: 26663905; PMCID: PMC6492852.

7. Bioactivity
Biological target:

NS383 is a potent and uniquely selective inhibitor of rat ASICs containing 1a and/or 3 subunits.

In vitro activity

NS383 likewise concentration-dependently inhibited ASIC1a and ASIC3 currents with IC_{50} values of 0.44 and 2.1 μM, respectively. However, no robust inhibition was observed at homomeric ASIC2a (Figure 2B, Table 1). Compared with amiloride, NS383 is thus 10-

to 30-fold more potent and displays selectivity between ASIC subtypes. Interestingly, the inhibition by NS383 at ASIC1a and ASIC3 was affected by the stimulatory H^+ concentration (Figure 2D).

Reference: CNS Neurosci Ther. 2016 Feb;22(2):135-45. https://pubmed.ncbi.nlm.nih.gov/26663905/

In vivo activity

Twenty-four hours after hindpaw CFA injection, a marked alteration in hindpaw weight bearing indicative of spontaneous nonevoked pain was observed (44.4 ± 2.3 g vs. 5.2 ± 2.2 g prior to injection, n = 128, $P < 0.001$, Student's *t*-test). This deficit was completely reversed by NS383 (10–60 mg/kg; $F(3, 30) = 9.677$, $P < 0.001$, amiloride (50–200 mg/kg; $F(3, 31) = 4.958$, $P < 0.01$), and acetaminophen (100–400 mg/kg; $F(3, 31) = 4.195$, $P < 0.05$) (Figure 5A–C).

Reference: CNS Neurosci Ther. 2016 Feb;22(2):135-45. https://pubmed.ncbi.nlm.nih.gov/26663905/