

Product data sheet



MedKoo Cat#: 530468 Name: NS-638 CAS: 150493-34-8 Chemical Formula: C ₁₅ H ₁₁ ClF ₃ N ₃ Exact Mass: 325.0594 Molecular Weight: 325.7192	
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-638 is a Ca(2+)-channel blocker. NS-638 dose dependently inhibited K(+)-stimulated [45Ca2+]-uptake in chick cortical synaptosomes and 2-amino-3-(3-hydroxy-5-methylisoxazol-4-yl)propionic acid (AMPA)-stimulated [3H]GABA-release from cultured cortical neurons with IC50 values of 2.3 and 4.3 microM, respectively. K(+)-stimulated intracellular Ca(2+)-elevation in cultured cerebellar granule cells was equipotently blocked with an IC50 value of 3.4 microM.

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	5.0	15.35
DMSO	19.5	59.87
Ethanol	2.0	6.14

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.07 mL	15.35 mL	30.70 mL
5 mM	0.61 mL	3.07 mL	6.14 mL
10 mM	0.31 mL	1.54 mL	3.07 mL
50 mM	0.06 mL	0.31 mL	0.61 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

Møller A, Christophersen P, Drejer J, Axelsson O, Peters D, Jensen LH, Nielsen EO. Pharmacological profile and anti-ischemic properties of the Ca(2+)-channel blocker NS-638. *Neurol Res.* 1995 Oct;17(5):353-60. PMID: 8584126.

In vivo study

Møller A, Christophersen P, Drejer J, Axelsson O, Peters D, Jensen LH, Nielsen EO. Pharmacological profile and anti-ischemic properties of the Ca(2+)-channel blocker NS-638. *Neurol Res.* 1995 Oct;17(5):353-60. PMID: 8584126.

7. Bioactivity

Biological target:

NS-638 is a small nonpeptide molecule with Ca²⁺-channel blocking properties.

In vitro activity

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NS-638 dose dependently inhibited K(+)-stimulated [45Ca²⁺]-uptake in chick cortical synaptosomes and 2-amino-3-(3-hydroxy-5-methylisoxazol-4-yl)propionic acid (AMPA)-stimulated [3H]GABA-release from cultured cortical neurons with IC₅₀ values of 2.3 and 4.3 microM, respectively.

Reference: Neurol Res. 1995 Oct;17(5):353-60. <https://pubmed.ncbi.nlm.nih.gov/8584126/>

In vivo activity

In the mouse middle cerebral artery occlusion (MCAO) model, NS-638 administered i.p. (50 mg kg⁻¹) at 1 h and 6 h post-ischemia, and once a day for the next two days, resulted in a 48% reduction in total infarct volume.

Reference: Neurol Res. 1995 Oct;17(5):353-60. <https://pubmed.ncbi.nlm.nih.gov/8584126/>

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.