

# Product data sheet



MedKoo Cat#: 510270 Name: NSI-189 CAS: 1270138-40-3 Chemical Formula: C <sub>22</sub> H <sub>30</sub> N <sub>4</sub> O Exact Mass: 366.2420 Molecular Weight: 366.4998		
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:

NSI-189 is a nootropic and neurogenic research chemical. NSI-189 has been shown to stimulate neurogenesis of human hippocampus-derived neural stem cells in vitro and in vivo.

## 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	73.0	199.18
Ethanol	73.0	199.18

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.73 mL	13.64 mL	27.29 mL
5 mM	0.55 mL	2.73 mL	5.46 mL
10 mM	0.27 mL	1.36 mL	2.73 mL
50 mM	0.06 mL	0.27 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

TBD

In vivo study

1. Jolivald CG, Aghanoori MR, Navarro-Diaz MC, Han MM, Sanchez G, Guernsey L, Quach D, Johe K, Fernyhough P, Calcutt NA. Enhancement of Mitochondrial Function by the Neurogenic Molecule NSI-189 Accompanies Reversal of Peripheral Neuropathy and Memory Impairment in a Rat Model of Type 2 Diabetes. J Diabetes Res. 2022 Jul 4;2022:8566970. doi: 10.1155/2022/8566970. PMID: 35967127; PMCID: PMC9372526.

2. Liu Y, Johe K, Sun J, Hao X, Wang Y, Bi X, Baudry M. Enhancement of synaptic plasticity and reversal of impairments in motor and cognitive functions in a mouse model of Angelman Syndrome by a small neurogenic molecule, NSI-189. Neuropharmacology. 2019 Jan;144:337-344. doi: 10.1016/j.neuropharm.2018.10.038. Epub 2018 Nov 5. PMID: 30408487.

## 7. Bioactivity

Biological target:

NSI-189 is a nootropic and neurogenic research chemical.

In vitro activity

# Product data sheet



TBD

## In vivo activity

ZDF (Zucker diabetic fatty) rats were maintained for 16 weeks of untreated diabetes before the start of oral treatment with NSI-189 for an additional 16 weeks. Treatment with NSI-189 selectively elevated the expression of protein subunits of complexes III and V and activities of respiratory complexes I and IV in the brain cortex, and this was accompanied by amelioration of impaired memory function and plasticity. In the sensory ganglia of ZDF rats, loss of AMPK activity was ameliorated by NSI-189, and this was accompanied by reversal of multiple indices of peripheral neuropathy.

Reference: J Diabetes Res. 2022 Jul 4;2022:8566970. <https://pubmed.ncbi.nlm.nih.gov/35967127/>

*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.*