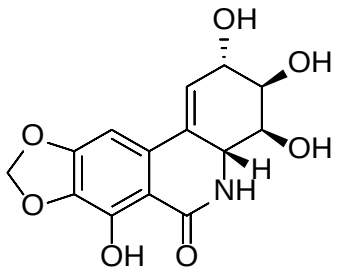
Product data sheet

MedKoo Cat#: 326780 Name: Narciclasine CAS: 29477-83-6 Chemical Formula: $C_{14}H_{13}NO_7$ Exact Mass: 307.0692 Molecular Weight: 307.258	
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:
Narciclasine is a toxic alkaloid found in various Amaryllidaceae species. Narciclasine is a potential allelochemical and affects subcellular trafficking of auxin transporter proteins and actin cytoskeleton dynamics in Arabidopsis roots. Narciclasine inhibits the responses of Arabidopsis roots to auxin. Narciclasine modulates polar auxin transport in Arabidopsis roots.

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	39.24	127.72

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.25 mL	16.27 mL	32.55 mL
5 mM	0.65 mL	3.25 mL	6.51 mL
10 mM	0.33 mL	1.63 mL	3.25 mL
50 mM	0.07 mL	0.33 mL	0.65 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. Lefranc F, Sauvage S, Van Goietsenoven G, Mégalizzi V, Lamoral-Theys D, Debeir O, Spiegl-Kreinecker S, Berger W, Mathieu V, Decaestecker C, Kiss R. Narciclasine, a plant growth modulator, activates Rho and stress fibers in glioblastoma cells. Mol Cancer Ther. 2009 Jul;8(7):1739-50. doi: 10.1158/1535-7163.MCT-08-0932. Epub 2009 Jun 16. Erratum in: Mol Cancer Ther. 2012 May;11(5):1216-7. PMID: 19531573.
2. Ingrassia L, Lefranc F, Dewelle J, Pottier L, Mathieu V, Spiegl-Kreinecker S, Sauvage S, El Yazidi M, Dehoux M, Berger W, Van Quaquebeke E, Kiss R. Structure-activity relationship analysis of novel derivatives of narciclasine (an Amaryllidaceae isocarbostyril derivative) as potential anticancer agents. J Med Chem. 2009 Feb 26;52(4):1100-14. doi: 10.1021/jm8013585. PMID: 19199649.

In vivo study

1. Tang R, Jia L, Li Y, Zheng J, Qi P. Narciclasine attenuates sepsis-induced myocardial injury by modulating autophagy. Aging (Albany NY). 2021 May 25;13(11):15151-15163. doi: 10.18632/aging.203078. Epub 2021 May 25. PMID: 34035183; PMCID: PMC8221305.
2. Zhao D, Zhang LJ, Huang TQ, Kim J, Gu MY, Yang HO. Narciclasine inhibits LPS-induced neuroinflammation by modulating the Akt/IKK/NF-κB and JNK signaling pathways. Phytomedicine. 2021 May;85:153540. doi: 10.1016/j.phymed.2021.153540. Epub 2021 Mar 9. PMID: 33773188.

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7. Bioactivity

Biological target:

Narciclasine is a plant growth modulator.

In vitro activity

Narciclasine (1) is a plant growth regulator that has been previously demonstrated to be proapoptotic to cancer cells at high concentrations (> or = 1 microM). Data generated in the present study show that narciclasine displays potent antitumor effects in apoptosis-resistant as well as in apoptosis-sensitive cancer cells by impairing the organization of the actin cytoskeleton in cancer cells at concentrations that are not cytotoxic (IC(50) values of 30-90 nM).

Reference: J Med Chem. 2009 Feb 26;52(4):1100-14. https://pubmed.ncbi.nlm.nih.gov/19199649/

In vivo activity

To evaluate the cardioprotective effects of narciclasine on inflammation in LPS-induced AMI, the levels of inflammatory indicators were measured. An indicator of neutrophil infiltration, MPO, was increased in the LPS group, and narciclasine effectively abrogated this increase (Figure 3A). Additionally, the mRNA expression levels of IL-6, IL-1β, TNF-α, and VEGF in heart tissues were significantly increased in LPS-induced AMI but were notably attenuated by narciclasine treatment (Figure 3B). These results demonstrated that narciclasine could attenuate heart inflammation in LPS-induced AMI.

Reference: Aging (Albany NY). 2021 May 25;13(11):15151-15163. https://pubmed.ncbi.nlm.nih.gov/34035183/

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.