

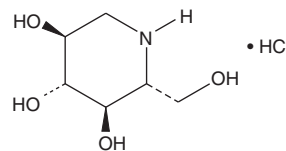
PRODUCT INFORMATION



1-Deoxynojirimycin (hydrochloride)

Item No. 10011718

CAS Registry No.: 73285-50-4
Formal Name: 2R-(hydroxymethyl)-3R,4R,5S-piperidinetriol, monohydrochloride
Synonyms: 1-DNJ, 1-dNM, Moranoline
MF: C₆H₁₃NO₄ • HCl
FW: 199.6
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

1-Deoxynojirimycin (1-DNJ) (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the 1-DNJ (hydrochloride) in the solvent of choice, which should be purged with an inert gas. 1-DNJ (hydrochloride) is soluble in the organic solvent DMSO at a concentration of approximately 10 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 1-DNJ (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 1-DNJ (hydrochloride) in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

1-DNJ is an iminosugar that has been found in *M. alba* (mulberry) leaves and has diverse biological activities.¹⁻⁶ It inhibits the activities of α - and β -glucosidase (IC_{50} s = 35 and 71 μ M, respectively).² 1-DNJ (5 mM) reduces the formation of N-linked complex oligosaccharides in IEC-6 cells.³ It inhibits HIV-1 envelope-mediated membrane fusion in CEM cells when used at a concentration of 2 mM.⁴ 1-DNJ (1-100 μ g/ml) reduces the invasion and migration of B16/F10 mouse melanoma cells.⁵ It improves glucose and insulin tolerance in *db/db* mice when administered intravenously at doses ranging from 20 to 80 mg/kg per day for four weeks.⁶

References

1. Gao, K., Zheng, C., Wang, T., et al. *Molecules* **21(11)**, 1600 (2016).
2. Ahuja-Casarín, A.I., Merino-Montiel, P., Vega-Baez, J.L., et al. *J. Enzyme Inhib. Med. Chem.* **36(1)**, 138-146 (2021).
3. Codelli, J.A., Baskin, J.M., Agard, N.J., et al. *J. Am. Chem. Soc.* **130(34)**, 11486-11493 (2008).
4. Papandréou, M.-J., Barbouche, R., Guieu, R., et al. *Mol. Pharmacol.* **61(1)**, 186-193 (2002).
5. Wang, R.-J., Yang, C.-H., and Hu, M.-L. *J. Agric. Food Chem.* **58(16)**, 8988-8993 (2010).
6. Liu, Q., Li, X., Li, C., et al. *Molecules* **20(12)**, 21700-21714 (2015).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/05/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM