

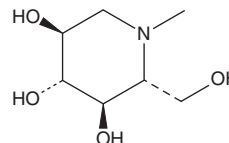
PRODUCT INFORMATION



N-Methyldeoxynojirimycin

Item No. 34378

CAS Registry No.: 69567-10-8
Formal Name: 2R-(hydroxymethyl)-1-methyl-3R,4R,5S-piperidinetriol
Synonyms: N-Methyl-1-Deoxynojirimycin, N-methyl DNJ, N-methyl dNM, N-Methylmoranoline, MOR 14
MF: C₇H₁₅NO₄
FW: 177.2
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

N-Methyldeoxynojirimycin is supplied as a solid. A stock solution may be made by dissolving the N-methyldeoxynojirimycin in the solvent of choice, which should be purged with an inert gas. N-Methyldeoxynojirimycin is slightly soluble in methanol (sonicated).

N-Methyldeoxynojirimycin is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

N-Methyldeoxynojirimycin is an inhibitor of α -glucosidases and glycoprotein processing.¹ It inhibits the rabbit intestinal α -glucosidases sucrase and maltase (IC_{50} s = 0.068 and 0.46 μ g/ml, respectively) and *R. niveus* glucoamylase (IC_{50} s = 1.6 and 4.7 μ g/ml with starch or maltose as substrates, respectively).² It is selective for these enzymes over β -glucosidase (IC_{50} = 363 μ g/ml). N-Methyldeoxynojirimycin inhibits highly pathogenic avian influenza (HPAI) oligosaccharide processing in HPAI-infected chicken embryo cells.¹ It reduces the cytopathic effect of HIV in infected Karpas-45 T cells.³ N-Methyldeoxynojirimycin also inhibits postprandial increases in blood glucose levels in sucrose-loaded rats (ED_{50} = 5.8 mg/kg).

References

1. Romero, P.A., Datema, R., and Schwarz, R.T. N-Methyl-1-deoxynojirimycin, a novel inhibitor of glycoprotein processing, and its effect on fowl plague virus maturation. *Virology* **130**(1), 238-242 (1983).
2. Yoshikuni, Y. Inhibition of intestinal α -glucosidase activity and postprandial hyperglycemia by moranoline and its N-alkyl derivatives. *Agric. Biol. Chem.* **52**(1), 121-128 (1988).
3. Karpas, A., Fleet, G.W.J., Dwek, R.A., et al. Aminosugar derivatives as potential anti-human immunodeficiency virus agents. *Proc. Natl. Acad. Sci. USA* **85**(23), 9229-9233 (1988).

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.

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