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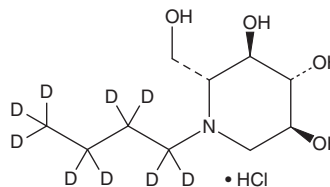
PRODUCT INFORMATION



N-Butyldeoxynojirimycin-d₉ (hydrochloride)

Item No. 34852

CAS Registry No.: 1883545-57-0
Formal Name: 1-butyl-d₉-2R-(hydroxymethyl)-3R,4R,5S-piperidinetriol, monohydrochloride
Synonyms: Miglustat-d₉, NB-DNJ-d₉
MF: C₁₀H₁₂D₉NO₄ • HCl
FW: 264.8
Chemical Purity: ≥98% (N-Butyldeoxynojirimycin)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₉); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

N-Butyldeoxynojirimycin-d₉ (NB-DNJ-d₉) is intended for use as an internal standard for the quantification of NB-DNJ (Item No. 21065) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

NB-DNJ-d₉ (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the NB-DNJ-d₉ (hydrochloride) in the solvent of choice. NB-DNJ-d₉ (hydrochloride) is soluble in organic solvents such as methanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. NB-DNJ-d₉ (hydrochloride) is also soluble in water. We do not recommend storing the aqueous solution for more than one day.

Description

NB-DNJ is an iminosugar that inhibits UDP-glucose ceramide glucosyltransferase and β-glucosidase 2 (IC₅₀s = 32 and 81 μM, respectively, for the rat recombinant enzymes).¹ It also increases the activity of wild-type acid β-glucosidase, as well as the S364R, N370S, V15M, or M123T mutants, in COS-7 cells expressing the human enzymes when used at a concentration of 10 μM.² NB-DNJ also inhibits HIV-1 and HIV-2 infection of peripheral blood mononuclear cells (PBMCs; IC₅₀s = 282 and 211 μM, respectively).³ Formulations containing NB-DNJ have been used in the treatment of Gaucher disease, an inborn error of metabolism characterized as a lysosomal storage disorder resulting from substantial deficiency of β-glucosidase.

References

1. Lee, J.C., Francis, S., Dutta, D., *et al.* Synthesis and evaluation of eight- and four-membered iminosugar analogues as inhibitors of testicular ceramide-specific glucosyltransferase, testicular β-glucosidase 2, and other glycosidases. *J. Org. Chem.* **77**(7), 3082-3098 (2012).
2. Alfonso, P., Pampín, S., Estrada, J., *et al.* Miglustat (NB-DNJ) works as a chaperone for mutated acid β-glucosidase in cells transfected with several Gaucher disease mutations. *Blood Cells Mol. Dis.* **35**(2), 268-276 (2005).
3. Pollock, S., Dwek, R.A., Burton, D.R., *et al.* N-Butyldeoxynojirimycin is a broadly effective anti-HIV therapy significantly enhanced by targeted liposome delivery. *AIDS* **22**(15), 1961-1969 (2008).

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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