

Product Data Sheet

Product Name: ToP-DNJ

Cat. No.: GC81592

Chemical Properties

Cas. No. 1508303-85-2

Formula C₄₀H₇₁NO₆

M.Wt 661.99

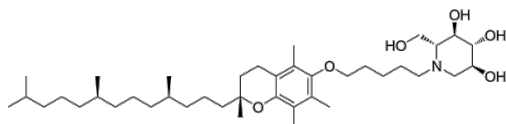
Solubility

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

ToP-DNJ is a selective endoplasmic reticulum α -glucosidase II (GluII) inhibitor with an IC₅₀ value of 9.0 μ M. ToP-DNJ selectively inhibits the two catalytic reactions of GluII, and exhibits stronger activity in the first step of converting di-glycosylated glycans to mono-glycosylated glycans. ToP-DNJ exhibits anti- DENV activity. ToP-DNJ can be used in studies related to dengue virus infection [1].

In Vivo, ToP-DNJ (2-10 mg/kg; i.v., p.o.; single dose) preferentially accumulates in the liver of BALB/c mice after both intravenous and oral single-dose administration, with an extended plasma terminal half-life of 8.79 h^[1].

Caution: Product has not been fully validated for medical applications. For research use only.

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In Vitro, ToP-DNJ is a selective inhibitor of isolated endoplasmic reticulum α -glucosidase II, with an IC_{50} of 9.0 μM , and does not inhibit other tested α - or β -glucosidases at concentrations up to 50 μM ^[1]. ToP-DNJ inhibits both catalytic reactions of isolated endoplasmic reticulum α -glucosidase II, with higher inhibitory potency against the first reaction (IC_{50} = 14 μM) than against the second one (IC_{50} = 56 μM)^[1]. ToP-DNJ exhibits anti-dengue virus activity in primary human monocyte-derived macrophages with an IC_{50} of 12.7 μM ^[1].

References:

[1]. Kiappes JL, et al. ToP-DNJ, a Selective Inhibitor of Endoplasmic Reticulum α -Glucosidase II Exhibiting Antiflaviviral Activity. ACS Chem Biol. 2018;13(1):60-65.

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