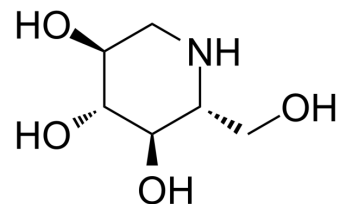


1-Deoxynojirimycin

Cat. No.:	HY-14860		
CAS No.:	19130-96-2		
Molecular Formula:	C ₆ H ₁₃ NO ₄		
Molecular Weight:	163.17		
Target:	Glucosidase; PI3K		
Pathway:	Metabolic Enzyme/Protease; PI3K/Akt/mTOR		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

H₂O : ≥ 34 mg/mL (208.37 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		1 mg	5 mg	10 mg
	Concentration	Mass			
	1 mM		6.1286 mL	30.6429 mL	61.2858 mL
	5 mM		1.2257 mL	6.1286 mL	12.2572 mL
	10 mM		0.6129 mL	3.0643 mL	6.1286 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

1-Deoxynojirimycin (Duvoglustat) is a potent and orally active α -glucosidase inhibitor. 1-Deoxynojirimycin suppresses postprandial blood glucose and is widely used for diabetes mellitus. 1-Deoxynojirimycin possesses antihyperglycemic, anti-obesity, and antiviral features^{[1][2]}.

In Vivo

1-Deoxynojirimycin (Duvoglustat) (20-80 mg/kg; i.v.; daily for four weeks) shows anti-obesity effect^[3]. 1-Deoxynojirimycin significantly improves insulin sensitivity via activating insulin signaling PI3K/AKT pathway in skeletal muscle of db/db mice^[3].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	db/db mice ^[3]
Dosage:	20, 40, 80 mg/kg

Administration:	Intravenously; daily for four weeks
Result:	Significantly reduced body weight, blood glucose and serum insulin levels; Improved glucose tolerance and insulin tolerance.

CUSTOMER VALIDATION

- Environ Microbiol. 2021 Mar 15.
- Exp Cell Res. 2020 Nov 2;397(1):112334.

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REFERENCES

- [1]. Chaluntorn Vichasilp, et al. Development of high 1-deoxynojirimycin (DNJ) content mulberry tea and use of response surface methodology to optimize tea-making conditions for highest DNJ extraction. LWT - Food Science and Technology. Volume 45, Issue 2, March 2012, Pages 226-232
- [2]. Gao K, et al. 1-Deoxynojirimycin: Occurrence, Extraction, Chemistry, Oral Pharmacokinetics, Biological Activities and In Silico Target Fishing. Molecules. 2016 Nov 23;21(11). pii: E1600.
- [3]. Liu Q, et al. 1-Deoxynojirimycin Alleviates Insulin Resistance via Activation of Insulin Signaling PI3K/AKT Pathway in Skeletal Muscle of db/db Mice. Molecules. 2015 Dec 4;20(12):21700-14.

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

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