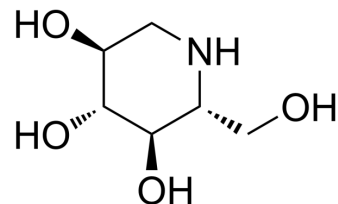


1-Deoxynojirimycin

| | | | |
|---------------------------|--|-------|---------|
| 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 | 2 years |
| | | -20°C | 1 year |



SOLVENT & SOLUBILITY

In Vitro

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

| Preparing Stock Solutions | Solvent Concentration | Mass | | |
|---------------------------|-----------------------|-----------|------------|------------|
| | | 1 mg | 5 mg | 10 mg |
| | 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.

In Vivo

1. Add each solvent one by one: PBS
 Solubility: 100 mg/mL (612.86 mM); Clear solution; Need ultrasonic

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.
- J Biol Chem. 2023 Sep 1;105211.
- Exp Cell Res. 2020 Nov 2;397(1):112334.

See more customer validations on www.MedChemExpress.com

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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