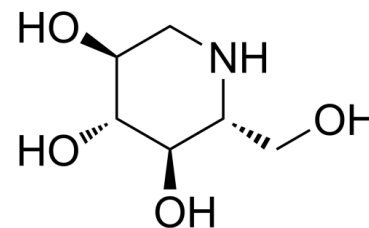


## Data Sheet

<b>Product Name:</b>	1-Deoxynojirimycin
<b>Cat. No.:</b>	CS-5594
<b>CAS No.:</b>	19130-96-2
<b>Molecular Formula:</b>	C <sub>6</sub> H <sub>13</sub> NO <sub>4</sub>
<b>Molecular Weight:</b>	163.17
<b>Target:</b>	Glucosidase; PI3K
<b>Pathway:</b>	Metabolic Enzyme/Protease; PI3K/Akt/mTOR
<b>Solubility:</b>	H <sub>2</sub> O : ≥ 34 mg/mL



### BIOLOGICAL ACTIVITY:

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<sup>[1][2]</sup>. *In Vivo*: 1-Deoxynojirimycin (Duvoglustat) (20-80 mg/kg; i.v.; daily for four weeks) shows anti-obesity effect<sup>[3]</sup>.

1-Deoxynojirimycin significantly improves insulin sensitivity via activating insulin signaling PI3K/AKT pathway in skeletal muscle of db/db mice<sup>[3]</sup>.

### 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.

### CAIndexNames:

3,4,5-Piperidinetriol, 2-(hydroxymethyl)-, (2R,3R,4R,5S)-

### SMILES:

O[C@@H]1[C@@H](CO)NC[C@H](O)[C@H]1O

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

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