

**Product Name:** Miglitol

**Catalog No.:** 4985

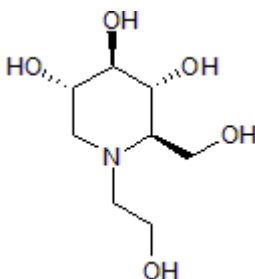
**Batch No.:** 1

CAS Number: 72432-03-2

IUPAC Name: (2*R*,3*R*,4*R*,5*S*)-1-(2-Hydroxyethyl)-2-(2-hydroxymethyl)-3,4,5-piperidinetriol

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>8</sub>H<sub>17</sub>NO<sub>5</sub>  
**Batch Molecular Weight:** 207.22  
**Physical Appearance:** White solid  
**Solubility:** water to 100 mM  
DMSO to 100 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**HPLC:** Shows 99.8% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Optical Rotation:** [α]<sub>D</sub> = -9.5 (Concentration = 0.5, Solvent = Water)  
**Microanalysis:**

	Carbon Hydrogen Nitrogen		
Theoretical	46.37	8.27	6.76
Found	46.4	8.09	6.66

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

Inhibitor of  $\alpha$ -glucosidase; antihyperglycemic. Suppresses postprandial hyperglycemia in vivo and reduces plasma glucose concentration in normal rats and in several animal models of diabetes. Shown to inhibit the loss of pancreatic  $\beta$  cells in type 2 diabetic rats. Also inhibits apoptosis and mitochondrial overproduction of reactive oxygen species in endothelial cells in vitro.

**Physical and Chemical Properties:**

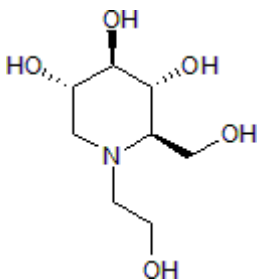
Batch Molecular Formula: C<sub>8</sub>H<sub>17</sub>NO<sub>5</sub>

Batch Molecular Weight: 207.22

Physical Appearance: White solid

**Minimum Purity:** >98%

**Batch Molecular Structure:**



**References:**

**Sels et al** (1999) Miglitol, a new  $\alpha$ -glucosidase inhibitor. *Expert Opin.Pharmacother.* **1** 149. PMID: 11249557.

**Goda et al** (2007) Effects of miglitol, an  $\alpha$ -glucosidase inhibitor, on glycaemic status and histopathological changes in islets in non-obese, non-insulin-dependent diabetic Goto-Kakizaki rats. *Br.J.Nutr.* **98** 702. PMID: 17537288.

**Aoki et al** (2012) Miglitol, an anti-diabetic drug, inhibits oxidative stress-induced apoptosis and mitochondrial ROS over-production in endothelial cells by enhancement of AMP-activated protein kinase. *J.Pharmacol.Sci.* **120** 121. PMID: 23018899.

**Storage:** Store at RT

**Solubility & Usage Info:**

water to 100 mM

DMSO to 100 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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