Streptozotocin

O-GlcNAcase inhibitor

Streptozotocin (STZ) is a glucosamine-nitrosourea widely used as an inhibitor of O-GlcNAcase in b-cells to induce diabetes in rodents. Once entered inside b-cells via the glucose transporter GLUT2, STZ causes alkylation of DNA, activation of poly ADP-ribosylation, depletion of cellular ATP and NAD^+, generation of superoxide radicals, and ultimately elimination of b-cells. STZ acts also as a nitric oxide (NO) donor and vasorelaxant capable of relaxing phenylephrine-contracted aortic rings at 10µM. STZ is a potent methylating agent for DNA.

Citations: 41 View Online »

- Highly pure O-GlcNAcase inhibitor
- Compound commonly used to induce diabetes *in vivo*
- Highly cited

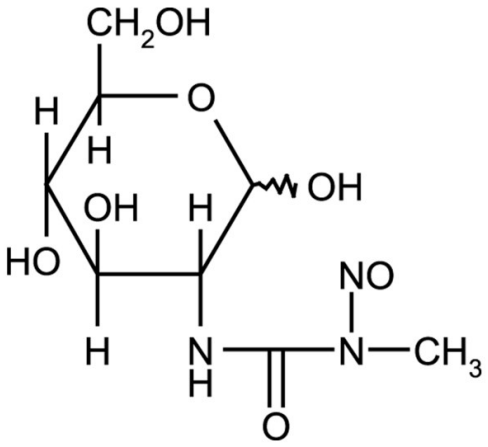
Ordering Information

Order Online »

ALX-380-010-5100	5x100mg
ALX-380-010-G001	1g

Manuals, SDS & CofA

View Online »


CH2OH
O
H
H
OH
H
OH
HO
NO
H
N
H
N
CH3
O


Streptozotocin
Enzo

Handling & Storage

Use/Stability	As indicated on product label or CoA when stored as recommended. Because solutions of the compound spontaneously give off NO gas at room temperature, we recommend that solutions be made immediately before use.
Long Term Storage	-20°C
Shipping	Dry Ice

Regulatory Status

RUO - Research Use Only

Product Details

Alternative Name	Streptozocin, 2-Deoxy-2-(3-methyl-3-nitrosoureido)-D-glucopyranose, STZ
Appearance	White to pale yellow crystalline solid.
CAS	18883-66-4
Couple Target	O-GlcNAcase
Couple Type	Inhibitor
Formula	$C_8H_{15}N_3O_7$
MI	**14:** 8832
MW	265.2
Purity	≥97% (HPLC)
RTECS	LZ5775000
Solubility	Soluble in 100% ethanol (200 proof at 0.92mg/ml) or water (nH2O at 102.8mg/ml).
Source	Isolated from *Streptomyces achromogenes*.

Technical Info / Product Notes

Solutions of Streptozotocin will spontaneously give off NO gas at room temperature. This NO release is slowed, but not completely stopped at -80°C, and the rate of NO release is also impacted by the solvent used (for example, dissolving Streptozotocin in buffers that contain sodium speeds up NO release).

Since it does not seem to be possible to completely stop the NO release when streptozotocin is in solution, and the NO donor function is critical to the majority of experimental applications, we recommend that customers make solutions only immediately before use.

Note: since streptozotocin is often used to treat animals, the requirement that solutions be made immediately before use can be overwhelming for some users. Therefore, we generally suggest that the material be initially dissolved in ethanol, aliquoted into single use amounts, and then the alcohol evaporated off to produce dry aliquots. NO loss is minimized by doing this procedure with the material on ice, and carrying it out as quickly as possible. The individual dry aliquots can then be easily dissolved immediately before use.

Last modified: May 29, 2024

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