



# Streptozocin (Streptozotocin) Data Sheet

<b>Catalog Number:</b>	MC11104	<b>Product Type:</b>	Small Molecule
<b>Bio-Activity:</b>	Diabetes inducer; NO donor	<b>CAS #:</b>	18883-66-4
<b>Research Categories:</b>	Cell death, oxidative stress, diabetes, cancer, infectious disease, inflammation	<b>Chemical Name:</b>	2-Deoxy-2-[(methylNitroamino)carbonyl]amino-D-glucose
<b>Solubility:</b>	Soluble in DMSO (up to 25 mg/ml) or in Water (up to 100 mg/ml)	<b>Molecular Formula:</b>	C8H15N3O7
<b>Purity:</b>	> 97%	<b>Molecular Weight:</b>	265.2
<b>Format:</b>	Powder	<b>Ship Temp:</b>	Ambient
<b>Storage:</b>	-20°C		

## Application Notes

### Description/Data:

An N-nitroso-aminoglucose derivative which is used to produce animal models of diabetes [1]. Alkylates DNA [2]. Inhibits pancreatic  $\beta$ -cell O-GlcNAc selective N-acetyl- $\beta$ -D-glucosaminidase [3]. Selectively induces death of  $\beta$ -cells which mechanistically is independent of N-acetyl- $\beta$ -D-glucosaminidase inhibition [4]. Is not a spontaneous NO donor [5].

### References:

- 1) Szkudelski et al. (2001), The mechanism of alloxan and streptozotocin action in B cells of the rat pancreas.; *Physiol. Res.*, 50 537
- 2) Bennett & Pegg (1981), Alkylation of DNA in rat tissues following administration of streptozotocin; *Cancer Res.*, 41 2786
- 3) Konrad et al. (2001), The potential mechanism of the diabetogenic action of streptozotocin inhibition of pancreatic beta-cell O-GlcNAc-selective N-acetyl-beta-D-glucosaminidase; *Biochem. J.*, 356 Pt 1 31
- 4) Gao et al. (2000), Streptozotocin-induced beta-cell death is independent of its inhibition of O-GlcNAcase in pancreatic Min6 cells; *Arch. Biochem. Biophys.*, 383 296
- 5) Kroncke & Kolb-Bachofen (1996), Streptozotocin is not a spontaneous NO donor.; *Free Radic. Res.*, 24 77

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