

NEUROMICS



Streptozocin (Streptozotocin) Data Sheet

Catalog Number:	MC11104	Product Type:	Small Molecule
Bio-Activity:	Diabetes inducer; NO donor	CAS #:	18883-66-4
Research Categories:	Cell death, oxidative stress, diabetes, cancer, infectious disease, inflammation	Chemical Name:	2-Deoxy-2-[[[(methylnitrosoamino)carbonyl]amino]-D-glucose
Solubility:	Soluble in DMSO (up to 25 mg/ml) or in Water (up to 100 mg/ml)	Molecular Formula:	C ₈ H ₁₅ N ₃ O ₇
Purity:	> 97%	Molecular Weight:	265.2
Format:	Powder	Ship Temp:	Ambient
Storage:	-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 β -cell O-GlcNAc selective N-acetyl- β -D-glucosaminidase [3]. Selectively induces death of β -cells which mechanistically is independent of N-acetyl- β -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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Neuromics Antibodies • 5325 West 74th Street, Suite 8 • Edina, MN 55439
phone 866-350-1500 • fax 612-677-3976 • e-mail: pshuster@neuromics.com