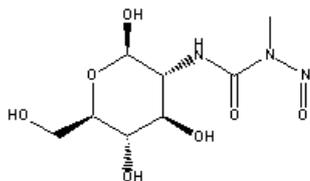


Catalog Number: 100557

Streptozotocin

Structure:



Molecular Formula: C₈H₁₅N₃O₇

Molecular Weight: 265.2

CAS # : 18883-66-4

Synonyms: STZ; 2-Deoxy-2-(3-methyl-3-nitrosoureido)-D-glucopyranose

Physical Appearance: White to off-white solid

Solubility: Soluble in water (50 mg/ml - clear to slightly hazy, light yellow solution) and ethanol. Aqueous solutions rapidly undergo mutarotation to an equilibrium mixture of alpha- and beta-anomers. Maximum solution stability is at a pH of 4, with stability decreasing rapidly at higher or lower pH. Freshly prepared solutions are clear and have a light straw color; while solutions which have been standing for a period of time take on a yellow to brown color and effervesce, indicating decomposition.¹⁴ MP recommends to prepare solutions fresh for each use.

E^mM(228 nm): 6.36 (ethanol)

Description: A potent methylating agent for DNA.³ An N-nitroso-containing compound that acts as a nitric oxide donor in pancreatic islets; induces death of insulin-secreting cells, producing an animal model of diabetes. It does not cross the blood-brain barrier, but its metabolites are found in cerebral spinal fluid.¹² The antileukemic effects of streptozotocin and its analogs have been reported.⁴

Note: Approx. 75% alpha anomer

Typical Use: It is used mainly in the treatment of pancreatic (islet-cell) tumors.¹² Has been used in intravenous injections in rats at a dose of 65 mg/kg body weight to induce diabetes (using cold 0.1 M citrate buffer pH 4.5).⁹ In rats and dogs, diabetes was induced using intravenous dosage of 50 mg/kg body weight (using 1-2% w/v solutions in saline buffered with citrate dextrose solution at pH 5.0).¹⁴ It has been used for the treatment of malignant insulinoma; assays for the drug have been developed.²

The biological half-life in cell culture medium was shown to be approximately 19 minutes.¹¹

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