STZ-induced type 1 diabetes model

Version: 1
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(note that the following list should be linked to the appropriate location.)

Summary: *(This area will include a brief description of what the protocol is used for and why someone would need to use it.)*

Streptozotocin can selectively destroy the pancreatic β-cells with rapid and irreversible necrosis and can be used to generate a chronic model of hyperglycemia and type 1 diabetes.

Reagents and Materials: *(This should be a comprehensive list of stock solutions and material. The reagent list for the stock solutions is included in the reagent preparation area that is included at the end of this SOP.)*

Reagent/Material	Vendor	Stock Number
Streptozotocin	Sigma	S0130
Sodium Citrate	Sigma	71402
Citric acid	Sigma	C1909

Protocol:

1. Administer an intraperitoneal injection of streptozotocin (50 mg/kg body weight) daily for 5 days.
2. Monitor glucose level for onset of hyperglycemia.

Reagent Preparation: *(This area may have several different preparations with the table of contents below.)*

Reagent 1: 0.1 M Na-Citrate
Reagents and Materials: Sodium Citrate, Deionized water
Procedure

1. Dissolve 14.71 g of Na-Citrate in 200 ml water.

Reagent 2: 0.1 M Citric acid
Reagents and Materials: Citric acid, Deionized water
Procedure

1. Dissolve 20.1 g of Citric acid in 200 ml water.

Reagent 3: Streptozotocin in 0.1 M Na-Citrate Buffer
Reagents and Materials: 0.1 M Na-Citrate, 0.1 M Citric acid, Deionized water
Procedure

1. Mix 0.1 M Na-Citrate and 0.1 M Citric acid.
2. Adjust pH to 4.5 with 0.1 M Citric acid.
3. Dissolve streptozotocin in Na-Citrate Buffer.