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Working

U Mass - STZ-induced type 1 diabetes model

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ABSTRACT

Summary:

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.

EXTERNAL LINK

https://mmpc.org/shared/document.aspx?id=152&docType=Protocol

MATERIALS

NAME	CATALOG #	VENDOR	CAS NUMBER	RRID
Streptozotocin	S0130	Sigma		
Sodium Citrate	71402	Sigma		
Citric acid	C1909	Sigma		

MATERIALS TEXT

Reagent Preparation:

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.

Note:
Sigma-Aldrich RRID:SCR_008988

1 Administer an intraperitoneal injection of streptozotocin (50 mg/kg body weight) daily for 5 days.

2 Monitor glucose level for onset of hyperglycemia.