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Working

UC Davis - Intraperitoneal Glucose Tolerance Test

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Mouse Metabolic Phenotyping Centers
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ABSTRACT

Summary:

An intraperitoneal Glucose tolerance test or ipGTT is designed to determine clearance of an intraperitoneally injected glucose load from the body. Animals are fasted for approximately 16 hours, a solution of glucose is administered by intraperitoneal (IP) injection and blood glucose is measured at different time points during 2 hours post-injection.

EXTERNAL LINK

https://mmpc.org/shared/document.aspx?id=85&docType=Protocol

MATERIALS

NAME	CATALOG #	VENDOR	CAS NUMBER	RRID
45% GLUCOSE SOLUTION	NC0025179(50-165-7017 substituti	Fisher Scientific		
Insulin Syringes	14-826-79	Fisher Scientific		
Saline Solution	L97753	Fisher Scientific		
Easy Check Glucose test strips	00-101(new SKU 88982400)	JRS Medical		
Easy Check Glucose monitor	Y4209 (new SKU 88972401)	JRS Medical		

MATERIALS TEXT

Reagent Preparation:

Dilute the glucose stock solution (45%) with saline to 20% by adding 20ml stock to 25ml 0.9% (w/v) sterile saline.

1 Fast mice for 16hours by taking away food the day before (3:00pm)

2 The following day, Calibrate the glucose meter according to the manufacturer's instructions.

3 Deprive mice from water then remove approximately 5 µl of blood (one drop) from thetail via a tail tip cut and transfer directly onto a glucose indicator strip.

4 Measure blood glucose immediately in a glucometer

5 Give the mouse an intraperitoneal injection of Glucose (2g/kg) with a 27 G needle

6 Continue to take blood samples from the initial tail cut before the glucose injection and at 15, 30, 60 and 120 min.
Between each of these time points, return the mouse to its cage and monitor it every minute.

7 **NOTE:**

At the end of the experiment, wipe tail with 70% alcohol and allow drying. Ensure that blood loss from the tail stopped before placing the animal back to its cage.