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Working

Case - Intraperitoneal Glucose Tolerance Test [↗](#)

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Mouse Metabolic Phenotyping Centers

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ABSTRACT

Summary:

This is the standard protocol for most routine glucose tolerance testing. It is performed on awake mice, fasted for 18 hr (overnight) or 6 hours.

EXTERNAL LINK

<https://mmpc.org/shared/document.aspx?id=271&docType=Protocol>

MATERIALS

NAME	CATALOG #	VENDOR	CAS NUMBER	RRID
D-Glucose stock 25 mg/ml in saline		Sigma Aldrich		
1cc syringe 26g		BD Biosciences		
Clotisol	T212002	Amazon		
AlphaTrak2	View			
Glucometer Alphasnak	cfgs185-m0285	Alphasnak		

MATERIALS TEXT

Reagents and Materials:

Reagent/Material	Quantity Required	Vendor	Stock Number
D-Glucose stock, 25 mg/ml in saline	2gm/kg body weight	Sigma	
1cc syringe 26g	1/Mouse	BD	
Glucometer Alphasnak	1		cfgs185-m0285
AlphaTrak2 Glucose strips	5 per mouse		
Clotisol	100ul	Amazon	T212002

Note:

Sigma-Aldrich, [RRID:SCR_008988](#)

BD Biosciences, [RRID:SCR_013311](#)

- 1 Fast mice overnight or for 6 hours. Remove mouse from cage and put into a clean cage with water and no food (5:00PM). Next day begin GTT by 9:00AM.

- 2 Weigh each mouse and record weight.
- 3 Insert glucose strip into glucometer and check that the code matches for the strip being used.
- 4 Take fasting blood glucose by snipping the tail and putting a drop on the glucose strip (already in glucometer). Record fasting glucose as time 0'. Dip tail into clotisol to clot blood.
- 5 Calculate the amount of glucose needed for a concentration of 2gm glucose/kg body weight. Record the volume for each mouse.
- 6 Inject each mouse 3' apart for time 0. Repeat #4 at 15min, 30 min, 60 min and 120 min after IP injection of glucose.
- 7 Do not take extra blood for insulin measurements. This causes too much stress. Use a separate group of mice for collecting blood after glucose injection for insulin measurements.



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