Intraperitoneal Glucose Tolerance Test

(Case Western Reserve University)

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.

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 Alphatrak	1		cfgs185-m0285
AlphaTrak2 Glucose strips	5 per mouse		
Clotisol	100ul	Amazon	T212002

Protocol:

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.