



Glucose/Insulin Tolerance Test

Version: 1

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Summary:

Tolerance tests are used as a non-invasive (i.e. no surgery required) means of assessing insulin sensitivity.

Reagents and Materials:

Reagent/Material	Vendor	Stock Number
Dextrose 20%	Covetrus	SKU:068545
Heparinized micro-hematocrit capillary tubes	Fisher Scientific	211766
BD Lo-Dose U-100 Syringe	BD	BD 329461
Humulin R Insulin (100U/ml)	Covetrus	SKU 067766

Protocol:

GTT (Glucose tolerance test)

1. On the night before the study, place the mice in fresh cages
2. Fast the mice (no more than 16hrs) to provide a reproducible fasting glucose level.
3. Place mice in restrainers for up to 2 hours
4. Collect blood to measure basal glucose and insulin levels
5. Remove mice from the restrainer and inject 10% glucose (1-2g/kg, ~0.30ml). Do this either via ip or gavage.
6. Return mouse to the restraints for further sampling.
7. Take samples (~40ul) at 15', 30', 45', 60', and 120' to measure glucose and insulin concentration. If the mouse is to be euthanized at the end of the IPGTT, they will receive a lethal dose of isoflurane.

ITT (Insulin tolerance test)

1. Same as the GTT, except that insulin is injected instead of glucose. Mice will be removed from the restraints and a restrained for an i.p. injection of regular human insulin (1 mU/kg ~0.30ml)

