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U Mass - Insulin tolerance test

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Protocol status: Working

We use this protocol and it's working

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Abstract

Summary:

Insulin tolerance test measures systemic clearance of glucose following an intraperitoneal bolus injection of a physiological dose of insulin. This experiment measures insulin sensitivity in awake mice assuming that there are no alterations in the animal's counterregulatory response. Insulin sensitivity is altered in obese mice.

Materials

MATERIALS

 Insulin **Novolin Catalog** #Regular human insulin, U-100

- 1 Mice are fasted for 5 hours prior to the start of experiment.
- 2 Collect plasma sample (20 μ l) before the start of experiment (basal-0 min) to measure basal insulin and glucose levels.
- 3 Administer intraperitoneal injection of insulin (0.5 or 0.75 unit/kg body weight) using an insulin syringe.
- 4 Collect plasma samples (10 μ l) at 10, 20, 30, 60, 90 and 120 min for the measurement of glucose concentrations.
- 5 For data analysis, plasma glucose levels vs. time after insulin injection are plotted, and area-under-curve may be calculated to estimate insulin sensitivity.