

## Insulin Tolerance Test (ITT)

**Background and Service Details:** Insulin tolerance test (ITT) is a simple method for evaluating sensitivity of insulin receptors in tissues by measuring blood glucose levels in circulation before and after bolus insulin injection. This technique can be used for rapid pharmacological screening of insulin-like drug candidates or insulin sensitivity modulators by assessing their hypoglycemic activity following acute or chronic administration. In a typical ITT experiment bolus intraperitoneal injections of human insulin (0.75U/kg) in a group of six C57BL mice are used to induce hypoglycemia. Test compounds can be administered either prior to or instead of insulin injections. Glucose levels in blood are monitored using strip glucometer immediately before insulin administration (0 minute) and at 20, 40, 60 and 120 minutes. A control group of the same size is treated with blank vehicle or insulin, depending on the purpose of the study.

**Deliverable:** Report including description of the study design, methodology, raw experimental data, graphs and interpretation.

**Sample Submission:** Dry compound or compound in a pre-made dosing formulation. The amount required depends on the dosing levels. For example, to treat 6 mice at 10 mg/kg, single dose of about 2 mg of compound is needed.