MAY 10, 2019

OPEN ACCESS

DOI:
dx.doi.org/10.17504/protocols.io.x2wfgfe

External link:
<http://mmpc.org/shared/document.aspx?id=140&docType=Protocol>

Protocol Citation: Jason Kim 2019. U Mass - Insulin clearance. **protocols.io**
<https://dx.doi.org/10.17504/protocols.io.x2wfgfe>

License: This is an open access protocol distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

Protocol status: Working
 We use this protocol and it's working

Created: Feb 12, 2019

Last Modified: May 10, 2019

PROTOCOL integer ID:
 20278

U Mass - Insulin clearance

Jason Kim¹

¹University of Massachusetts

Mouse Metabolic Phenotyping Centers
 Tech. support email: info@mmpc.org

Lili Liang

ABSTRACT

Summary:

Insulin clearance test measure systemic clearance of insulin following a bolus injection. Liver accounts for the majority of systemic insulin clearance following secretion from pancreatic β - cells into portal circulation. Hepatic clearance of insulin may be affected by obesity and in other mouse models of altered metabolism. Alterations in insulin clearance may also affect glucose and lipid metabolism.

MATERIALS

MATERIALS

Insulin Novolin Catalog #Regular human insulin, U-100

Insulin Ultrasensitive ELIZA Alpcos Catalog #80-INSMSU-E01

Note:

Cite this, **Alpcos Diagnostics Cat# 80-INSMSU-E01**, [RRID:AB_2792981](#)

Keywords: Insulin
clearance, glucose, lipid
metabolism

- 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 plasma insulin concentrations.
- 5 For data analysis, plasma insulin levels vs. time after insulin injection are plotted, and area-under-curve may be calculated to estimate systemic insulin clearance.