

Resource Summary Report

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U Michigan - Glomerular Filtration Rate Determination with Minipump Inulin Clearance

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Type: Protocol

Proper Citation

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Protocol Information

URL: <https://dx.doi.org/10.17504/protocols.io.x63frgn>

Authors: Jeff Hodgkin

Group: Mouse Metabolic Phenotyping Centers

Summary: This is the protocol for measuring Glomerular Filtration Rate (GFR) with minipump FITC-inulin clearance in mice. In brief, Alzet micro-osmotic pumps (minipumps, Model 1007D) are filled with 3% FITC-inulin solution. These pumps release FITC-inulin at a rate of 0.5 μ l/hr at least seven days. Mouse is temporarily anesthetized and then two mini-pumps are implanted in mouse peritoneal cavity through a tiny midline incision. After surgery, 24-hour urine is collected with metabolic cage and 100 μ l of blood from saphenous vein is obtained at the same time. The concentrations of FITC-inulin in urine and blood samples are measured by flurometer and GFR is calculated by the concentration of FITC-inulin in 24-hour-urine and the concentration of FITC-inulin in plasma.

Affiliations: University of Michigan - Ann Arbor

External URL: <https://mmpc.org/shared/document.aspx?id=310&docType=Protocol>

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