

Mouse Urinalysis

Supplies:

- Chemstrip 4MD urinalysis test strips (Roche Diagnostics, Laval, Quebec)
- 1.5 ml microtube
- 1-10 μ l pipette with tip

General Information:

Urinalysis test strips provide a fast, convenient method for screening mouse urine for the presence of glucose, protein and blood. The presence of glucose in the urine is a potential indicator of diabetes. Blood or excessive protein in the urine is indicative of kidney disease.

Procedure:

Mouse urine is collected in a 1.5 ml microtube from a conscious, restrained mouse. The mouse is picked up and held between the technician's thumb and forefinger by the excess skin at the base of the neck. The mouse's tail is held under the technician's pinky finger to secure the hind end of the animal. A 1.5 ml microtube is held at the point of urination and the bladder area on the mouse is gently massaged. Any expelled urine is collected in the microtube. Alternatively, the mouse can be held by the tail, upright on a wire cage top and the urine collected by bladder massage in this position. The urine in the tube is thoroughly mixed and a 2 μ l aliquot is pipetted onto a Chemstrip 4MD urinalysis test strip (Roche Diagnostics, Laval, Quebec). After 60 seconds, the colour change on the strip is compared to a supplied colour scale. The range of glucose measured by the test strip is 2.8 – 55 mmol/L, the range of protein measured is 0 – 500 mg/dl, and the range of blood measured is 0 – 250 Erythrocytes/ μ L. A urine specimen should not stand for more than 2 hours before testing.

Reported Results

For each mouse tested, a urine glucose, protein and blood value is reported.

Acknowledgements:

The CMHD requests that the users of our screening service acknowledge the technical assistance of our facility in any presentations or publications that report results generated by our services. A suitable acknowledgement for publications is as follows: "The authors would like to acknowledge the Samuel Lunenfeld Research Institute's CMHD Mouse Physiology Facility for their technical screening services (www.cmhd.ca)."

Additionally, please send reprints or information on such publications or presentations when they are submitted or available. Such acknowledgements will help promote the use of our service and assist us in obtaining continued financial support to help defray service fees.