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Neuropathy Phentoyping Protocols - Basic Breeding to Harvest

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1 Works for me dx.doi.org/10.17504/protocols.io.3jngkme

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ABSTRACT

Summary:

Phenotyping of Rodents for the Presence of Diabetic Neuropathy
In man, the development of diabetic neuropathy is dependent on both the degree of glycemic control and the duration of diabetes. Diabetic neuropathy is a progressive disorder, with signs and symptoms that parallel the loss of nerve fibers over time. Consequently, assessments of neuropathy in mice are not performed at one time point, but are characterized at multiple time points during a 6 month period of diabetes. The degree of diabetes is evaluated in 2 ways: tail blood glucose measured following a 6 hour fast and glycated hemoglobin levels. The initial degree of neuropathy is screened using the methods discussed below. Detailed measures of neuropathy are employed when the initial screening instruments indicate a profound or unique phenotypic difference. This document contains protocols used by the DiaComp staff to examine and measure diabetic neuropathy at the whole animal, tissue and cellular levels.

Diabetic Complication:

EXTERNAL LINK

https://www.diacomp.org/shared/document.aspx?id=54&docType=Protocol

1 Basic breeding scheme is harem breeding: 2 females, 1 male per cage.

2 At least 3 breeding trios are active and are replaced every 6 months.

3 Tail biopsies are collect at 3-4 weeks of age for genotyping.

4 Fasting blood glucose tests are performed every 4 weeks.

5 Body weights are recorded every 4 weeks at same time as glucose test.

6 In animals not spontaneously diabetic, diabetes is induced by STZ injections at 8 weeks. 40mg/kg for 5 consecutive days.

7 Urine is collected at 12 and 24 weeks. (24 week time point is a 24 hour collection)