Aug 16, 2019

Neuropathy Phentoyping Protocols - Dosages of Analgesics for Rats and Mice

DOI
dx.doi.org/10.17504/protocols.io.3jrgkm6

Eva Feldman[1]

[1]University of Michigan - Ann Arbor

Diabetic Complications Consortium
Tech. support email: **rmcindoe@augusta.edu**


Lili Liang

OPEN ACCESS

DOI: https://dx.doi.org/10.17504/protocols.io.3jrgkm6

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

Protocol Citation: Eva Feldman 2019. Neuropathy Phentoyping Protocols - Dosages of Analgesics for Rats and Mice. **protocols.io https://dx.doi.org/10.17504/protocols.io.3jrgkm6**

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

Created: May 31, 2019

Last Modified: August 16, 2019

Protocol Integer ID: 23889

Keywords: Neuropathy Phentoyping, Dosages of Analgesics, Diabetic Neuropathy, diabetic neuropathy at the whole animal, presence of diabetic neuropathy, diabetic neuropathy, development of diabetic neuropathy, detailed measures of neuropathy, assessments of neuropathy, neuropathy phentoyping protocol, diabetes, neuropathy, duration of diabetes, initial degree of neuropathy, diabetic complication, month period of diabetes, degree of diabetes, glycemic control, loss of nerve fiber, degree of glycemic control, tail blood glucose, nerve fiber, analgesic, glycated hemoglobin level, dosages of analgesic, phenotyping of rodent

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:

Neuropathy

Materials

Dosages of Analgesics for Rats and Mice

Analgesic	Mouse mg/kg/freq (route)	Rat mg/kg/freq (route)
Morphine	10 / 2-4 hr (SC)	10 / 2-4 hr (SC)
Meperidine (Demerol)	20 / 2-3 hr (SC, IM) 20-40 (IP)	20 / 2-3 hr (SC, IM)
Pentazocine (Talwin)	10 / 3-4 hr (SC)	10 / 4 hr (SC, IM)
Butorphanol (Turbugesic)	0.05-5.0 (SC)	0.05-2.0 (SC)
Buprenorphine (Buprenex)	2.0 / 12 hr (SC)	0.1-0.5 / 12 hr (SC)
Aspirin	120-130 (PO)	100 (PO)
Ibuprofen	7.5 (PO)	10-30 (PO)
Acetaminophen (Tylenol)	300 (IP)	110-300 (PO)

Troubleshooting