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Plantar Analgesia Test for Hind Paw and Tail [↗](#)

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Works for me

[dx.doi.org/10.17504/protocols.io.3udgns6](https://doi.org/10.17504/protocols.io.3udgns6)

Diabetic Complications Consortium

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ABSTRACT

Summary:

This protocol measures and quantifies the animals sensitivity to pain in the hind paw. These measurements can be used to evaluate the pathology present in the nervous system.

Diabetic Complication:



Neuropathy

EXTERNAL LINK

<https://www.diacomp.org/shared/document.aspx?id=37&docType=Protocol>

MATERIALS TEXT

Reagents and Materials:

- IITC Model 336 Plantar/Tail Analgesic Meter with True tail Temp and Heated Glass
- HP laser printer
- Mouse restraint
- #2 Phillips screwdriver
- Power strip
- Foot switch
- Temp probe with stand and guide (Needed for tail flick only)
- Plastic mouse chamber
- Black Sharpie

Setup:

- 1
 - Must clean equipment with sporekrenz before entering the animal room
 - All restrainers need to be exclusively used in same room. If restrainer has been in another animal room, it CANNOT be used!
 - The True Tail Temp cannot be used for the paw test. It must be disabled.
Press 6000E on keypad of CPU. It is on by default.
 - Test Head needs to be removed from Tail Flick machine and placed under heated glass.
 - Never remove cable from test head or back of tail flick machine when it is on.
Failure to pay attention may damage electrical circuits in machine.

Instrument Instructions:

- 2
 - Keyboard commands ///There are 7 commands/// \\number plus E shows the setting of the function\\
 - 1) #1 – Current Temperature (1E shows temp)
 - 2) #2 – animal number e.g. 2011E for animal 11
 - 3) #3 – Active Intensity (During Test) e.g. 3050E for 50% intensity
 - 4) #4 – Idle Intensity (Temp during the ready state) e.g. 4050E for 50%
 - 5) #5 – Cutoff timer (Harm prevention) e.g. 5025E for 25 seconds
 - 6) #6 – Trigger Temperature (Pre-warming) ***disable***
 - 7) #7 – Time of day (24 hr format{ 5 digit sequence}) e.g. 00100E for 1am
 - 8) #8 – Date (6 digits must be used) eg.020501 for Feb 5th, 2001

Pre-Operating Instructions:

- 3
 - Mice need to be acclimated to the machine. This is accomplished with three 15 minute sessions per animal. The heat should be turned on medium (roughly equivalent to 32°C) 10 minutes prior to when animals enter the box.

Operating Instructions:

- 4
 - For first animal type 6000E, 4001E, 3015E, 5015E, and set time and date
 - Place 1 mouse in each of the 6 cubes and let settle down for 15 minutes. Once calm, set the Test Head under the paw.
Use idle intensity to focus the beam properly. Use as little idle intensity as possible during to avoid additional negative conditioning.
 - There are two ways to start test. The footswitch or the red button. Hit either one and the test will begin. When the mouse moves paw, press red button or footswitch to stop test.
 - When the test ends, there will be three numbers that flash
 - P = Finish temp
 - B = Start temp
 - Blank = elapsed timeThe time should be recorded only.
 - Test is over

Additional Notes:

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- Collecting the data can occur in two ways. After each test, the data can manually be collected or a printer can be set up to the machine and will print the data when there is one full page of data. Manual data collection is recommended at this point.
 - Settings to be used
 - Active Intensity is 25%
 - Idle Intensity is 1%
 - Cutoff time is 35 seconds
 - If the machine becomes confused, consult manual page 8, Troubleshooting.



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