

**Hot Plate Test**  
**IACUC Standard Procedure**  
**Effective Date: October 2021**

**Description of Procedure:**

The latency to respond to a thermal stimulus applied to the paws is determined by the time it takes the mouse to lick or flick the hind paw or jump from the hot plate surface. These reflexive behaviors involve both cerebral and spinal mediated circuits. The temperature of the hot plate is calibrated by the experimenter to produce a withdrawal response within 10-15 seconds in control mice.

**Supplies:**

- Hot plate test apparatus



**Procedure Steps:**

1. Mice are brought into the testing room and a period of acclimation is provided (30-60 min).
2. The surface of the hot plate is cleaned with Vimoba prior to use.
3. The surface of the hot plate is heated to a maximum temperature of 48-55°C.
4. The mouse is placed on the testing apparatus and the timer is started.
5. The latency to show a nociceptive response with hind paw lick, hind paw flick, or a jump is recorded. The mouse is immediately removed once this response is observed.
6. If there is no response within 30 seconds, the test is terminated and the mouse is removed from the hotplate to prevent heat-related injury.
7. The surface of the hotplate is cleaned with 70% ethanol between the testing of each mouse.

**Potential adverse effects to be considered:** Pain