

**Cold Plate Test**  
**IACUC Standard Procedure**  
**Effective Date: February 2022**

**Description of procedure:**

In the cold plate test, a flinch of the rodent's paw is considered the stimulus response. This test helps in understanding cold allodynia and hyperalgesia.

**Supplies:**

- Cold plate test apparatus:



Fig 1. Peltier cold plate

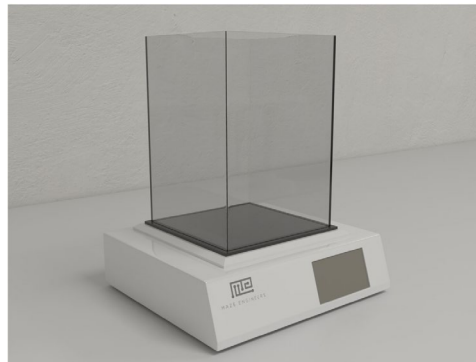


Fig 2. Maze Engineers hot/cold plate

**Procedure Steps:**

1. It is recommended that animals be acclimated to the testing room.
2. The surface of the cold plate is cleaned with an approved disinfectant prior to use.
3. The surface of the cold plate is cooled to a temperature range of  $-5^{\circ}$ - $15^{\circ}$ C.
4. The animal is placed into the testing apparatus. While general movement is limited, the animal is not restrained.
5. The latency to show a nociceptive response with a paw flinch, shaking, or jumping (less common) is recorded. The animal is immediately removed once this response is observed.
6. If there is no response within 20 seconds, the animal is removed from the apparatus.

**Potential adverse effects to be considered:** None anticipated.

**References:**

1. Allchorne AJ, Broom DC, Woolf CJ. Detection of cold pain, cold allodynia and cold hyperalgesia in freely behaving rats. *Mol Pain*. 2005
2. Luc Jasmin, Lynn Kohan, Michelle Franssen, Gabriella Janni, Jonathan R Goff, The cold plate as a test of nociceptive behaviors: description and application to the study of chronic neuropathic and inflammatory pain models. *Pain*. 1998