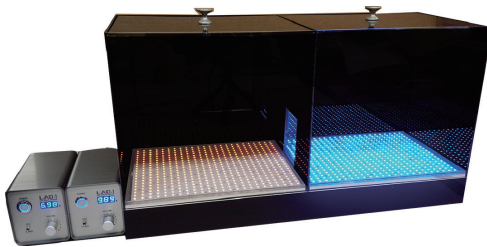


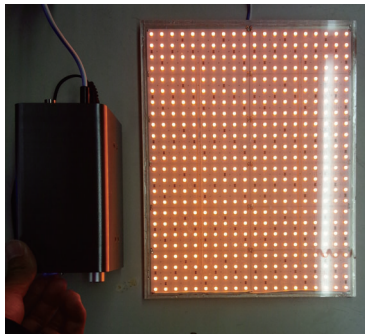
Optogenetic Place Aversion System



In 2014, Lyer et al. published a work using a new pain test model, combining optogenetics technique and conventional place aversion test:

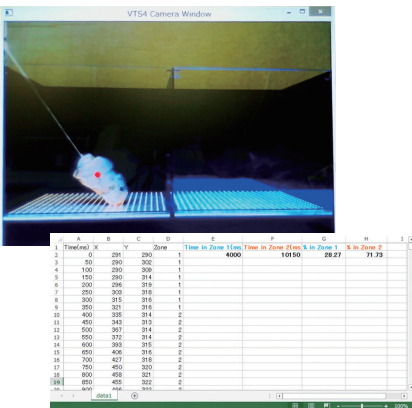
Virally mediated optogenetic excitation and inhibition of pain in freely moving nontransgenic mice. Nat Biotechnol

In this Optogenetic Place Aversion (=OPA) test, the result does not depend on experimenters skill unlike the traditional Von-Frey test. In addition, you can evaluate pain sensory neuron-specifically (e.g. A-beta, A-delta, C fiber, etc.), by expressing ChR2 on specific neurons. Our OPA system uses 480 pieces of high power LED for each array so that enough light can reach sensory neuron under animals' skin, thus enables non-invasive and objective test.



● LED Array for OPA

- 480 pieces LED per array
- Dedicated high-power LED Array driver (LAD-1-OPA)
- Minimized heat generation: the "air layer" between LED and top plate blocks heat. Most heat goes to aluminum body under the LED array, maximizing heat dissipation.
- Blue (470nm) and Yellow (590nm) by default. Other colors are possible on request.



● Data Recording

Using a camera from side or top of the test box, animal position is continuously tracked and recorded. Total time in each side, the time ratio between blue and yellow zone can be calculated. These are main parameters which can be used as quantified pain evaluation index.

● Contents

OPA-SYSTEM Optogenetic Place Aversion System (includes:)

- OPA-BOX OPA test box
- LAD-1-OPA LED Array Driver for OPA x2
- LEDA-B-OPA LED Array for OPA, Blue
- LEDA-Y-OPA LED Array for OPA, Yellow
- VTS-4 Video Tracking Stimulator

model: **OPA-SYSTEM**
OPA-BOX
LAD-1-OPA
LEDA-B-OPA
LEDA-Y-OPA