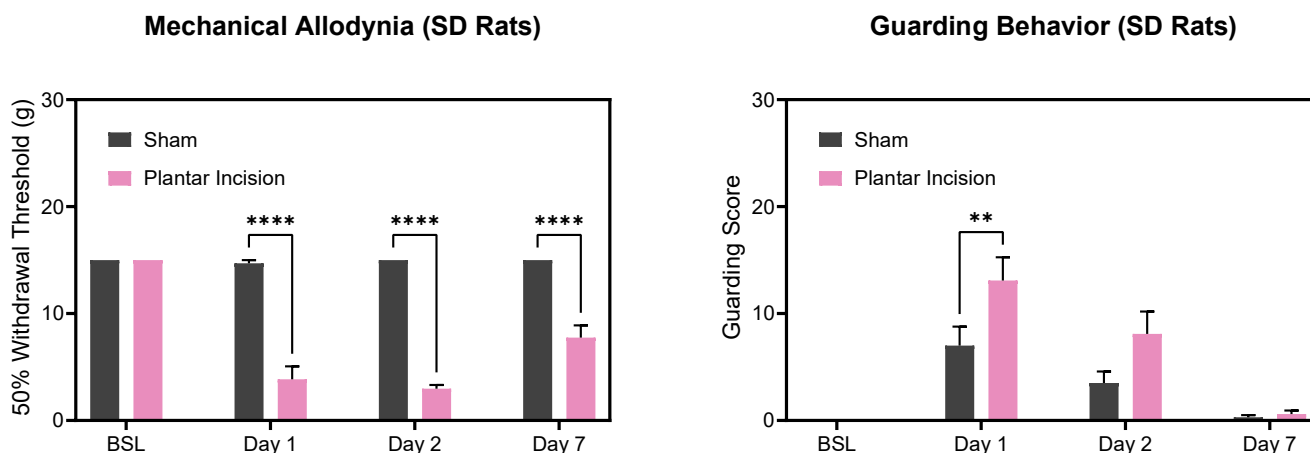


## Plantar Incision Model of Incisional Pain

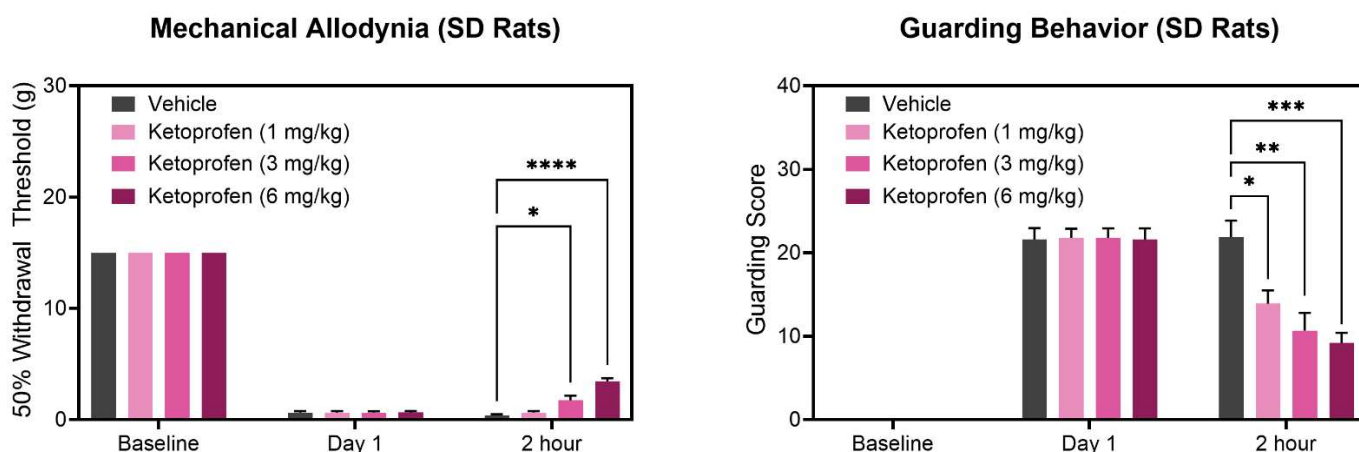
The rat plantar incision model was developed as a model of post-operative pain in which an incision (1-1.5 cm) is made in the hind paw of the rat. The model is characterized by transient hind paw mechanical allodynia and spontaneous guarding behaviors, which are believed to be indicative of post-operative pain experienced in the clinic. A variety of pharmacological treatments including opioid drugs and nonsteroidal anti-inflammatory drugs (NSAIDs) have been found to effectively inhibit pain behaviors in this model.

### Behavioral Pain Phenotype: Hind Paw Mechanical Allodynia and Guarding Behavior



**Figure 1:** Development of hind paw mechanical allodynia (**left**) and guarding behavior (**right**) over 7 days following the plantar incision or sham procedure. Mechanical allodynia is represented as decreased 50% withdrawal thresholds to von Frey filament stimulation and guarding score is represented as the cumulative observations over each hour (one observation scored 0-3 every 5 minutes; maximum score of 39). \*\*\*\*  $p < 0.0001$ , \*\*  $p < 0.01$

### Pharmacology: Ketoprofen Reduces Mechanical Allodynia and Guarding Behavior



**Figure 2:** Mechanical allodynia (**left**) and guarding behavior (**right**) in SD rats prior to plantar incision (BSL), prior to dosing (post-operative day 1) and 2 hours following dosing with ketoprofen or vehicle. \*\*\*\*  $p < 0.0001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , Dunnett's test