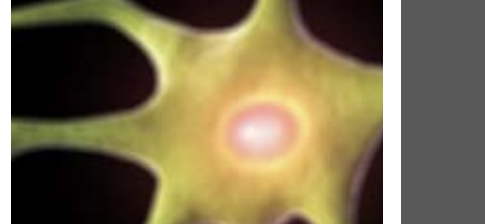


# Case Studies in Customized Approaches for Pain Therapeutics - Preclinical Models



## Mini-case 1:

Custom model development for testing analgesic activity of compound delivered using a patch.

### Situation:

A pharma company wanted to test the analgesic activity of a compound delivered using a patch. Wanted a reliable model that closely resembled the human skin and was able to monitor pain longer than a few days.

### Challenge:

Due to the similarities with human skin, the pig was chosen as the appropriate model, however a pig model for the evaluation of pain longer than 2-4 days was not available. The treatment was expected to have an effect for up to 7 days requiring a longer model.

### Outcome:

MD Biosciences developed a model of post-operative pain that would last up to 14 days. The model relied upon Von Frey testing over the traditional sling method used with pig studies, providing a much more reliable and accurate measure of pain. The patch was evaluated for its effectiveness in alleviating pain for up to 7 days.

## Mini-case 2:

Customized delivery approach for testing analgesic activity of a compound

### Situation:

A pharma company wanted to test the analgesic activity of a compound in neuropathic pain. They required a therapeutic regime using an intrathecal (IT) route of delivery.

### Challenge:

Using IT administration with a therapeutic regime would typically require a second anesthetization to add an Alzet pump after disease had been initiated, however this could have a possible effect on the pain. The model chosen was the CCI model and it was customized for use with an Alzet Pump fitted with an additional tube that would allow saline to be administered for 7 days followed by the administration of the compound for an additional 7 days. An air bubble was created between the saline and the compound to keep them from mixing, which also enabled a 2-minute delay before starting compound administration.

### Outcome:

The compound was shown to be efficacious as evident by greater than 50% reduction in pain. Since the delivery method was modified to facilitate the therapeutic regime, the direct administration of the compound was shown to be neuroprotective.

### About MD Biosciences

We understand the challenges of filling and progressing product pipelines with limited budgets, time and resources. We also understand the importance of choosing a preclinical CRO partner that is the right fit. You'll find when working with us that we are focused your individual objectives to enable smarter study designs aimed at progressing your pipelines forward.

**mdb**

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