



Melior Discovery has pioneered an efficient and systematic approach to find new uses for existing drugs and drug candidates. By applying the unique multiplexed *theraTRACE*® indications discovery platform, Melior can quickly evaluate a compound in multiple, high quality *in vivo* models in order to test the molecule's potential use in a variety of therapeutic areas. In response to growing demands, we are now able to offer this same expertise applied to the design and execution of *in vivo* studies utilizing individual efficacy models.

theraTRACE® Platform

Uniquely powerful approach
to Indications Discovery

- not "hypothesis driven"
- highly predictive *functional* animal models
- "systematic serendipity"
- multiplexing know-how makes this possible

THERMAL

Hot Plate: Assessment of supraspinal mediated pain

- » Validated with known analgesia compounds
- » Latency to first hind paw pain behavior is observed

Tail Flick: Assessment of spinal mediated pain

- » Validated with known analgesia compounds
- » Latency to first tail flick pain behavior is observed

MECHANICAL

Von Frey: Assessment of Allodynia

- » Validated with known analgesia and anti-inflammatory compounds
- » Exposed to filaments to the threshold to elicit response in 50% of trials
- » May be used with inflammatory/chemical stimuli or neuropathy models

CHEMICAL

Formalin Footpad: Assessment of chemical/inflammatory pain

- » Validated with known analgesia compounds
- » Formalin pain observed in two stages: acute and tonic
- » Duration of pain behavior measured over specified time

VISCERAL

Acetylcholine-Induced Writhing: Assessment of smooth muscle pain

- » Used as model for Irritable Bowel Syndrome (IBS) pain
- » Determines affect on smooth muscles of GI tract
- » Time to onset and total writhing time

NEUROPATHIC

Nerve injury: Assessment of neuropathic pain

- » Validated with known analgesia compounds
- » Chronic constriction injury (Bennet and Xie model)
- » Spinal nerve ligation (Chung's model)
- » Diabetic neuropathy (STZ rats)
- » Threshold of mechanical and/or thermal pain behavior measured over specified time

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