

Neurodigm GEL™ Model of neuropathic pain

Via a percutaneous injection the Neurodigm GEL™ Model displaces the perineural tissue matrix. An ectopic focus is induced resulting in a robust and durable model . . .

Proprietary matrix Neurodigm GEL™

Morphine less effective overtime
Celecoxib not analgesic
Gabapentin profound analgesia
Duloxetine profound analgesia
☉ Erythropoietin extinguished pain

See F1000Research.com "The refined biomimetic NeuroDigm GEL™ Model of neuropathic pain in a mature rat" Hannaman et al 2017 V2

Do your current models actually represent human neuropathic pain ?



The reverse engineering of the physiology of chronic neural pain led to the development of this translational animal model

Neurodigm GEL™ Model

- nonsurgical gel implantation
- proven on:
 - Lumbar 4 Nerve root
 - Sciatic Nerve
 - Tibial Nerve
 - Superficial Peroneal N.
 - Saphenous Nerve
- with any peripheral or autonomic nerves
- less traumatic than heat, freezing, irritants as used in other models

Common Surgical Models

- CCI (Bennett)
Chronic Constriction Injury
3-4 loose ligatures on Sciatic N.
- SNL (Chung)
Spinal Nerve Ligation L5
1 tr. vert. process fracture
1 ligature +/- 1 transection
- SNI (Woolf)
Spared Nerve Injury
1 transection of tibial n.
1 transection of c.peroneal
saphenous nerve spared



☉ LICENSE METHOD

- Non exclusive
- Non royalty bearing
- Academic, Commercial and CRO pricing

☉ INTELLECTUAL PROPERTY

Neurodigm GEL™ Model of neuropathic pain
U.S. Patents
7015371, 7388124

☉ RESEARCH TOOL

Refined technique compliant with the 3Rs

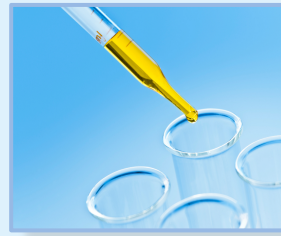
FDA Safe Harbor Provision does not apply to the "creation or use of a patented research tool."

☒ youtube.com "neurodigm" to see drug validation video

Ask for terms sheet

NeuroDigm GEL™ Model

- GENTLE** No direct nerve injury, incisions, ligatures, blood loss or fractures
- QUICK** performed in < 2 minutes
- ROBUST** > 95% of young rodents with neuropathic pain behaviors of cold allodynia, mechanical allodynia and mechanical hyperalgesia (no heat response, patients usually love heat)
- REALISTIC** Based on the process of tissue repair - after injury
Predictive of human analgesic responses
Morphine not analgesic over time
Gabapentin and Duloxetine with marked analgesia



U.S. patents 7015371, 7388124

Neuropathic pain: (IASP)

“caused by a lesion or disease of the somatosensory nervous system”

LESION: *“A pathologic change in the tissues.”*

PROBLEM: this *neural lesion is invisible* to present methods of electrodiagnostics, imaging, and physical examination

SOLUTION: The NeuroDigm GEL™ Model

by *mimicking this occult neural lesion* this model makes possible new discoveries in drugs, diagnostics, biologics, imaging, biomarkers and devices

An open incision is not necessary to create pathology in neural tissue. Actually most neuropathic pain patients lack clinical evidence of neural damage or injury, despite having recognized pain behaviors.

The NeuroDigm GEL™ Model creates a lesion mimicking perineural matrix changes as found after soft tissue injuries that can cause neuropathic pain such as: repetitive trauma, crush injuries, neuromuscular strain, industrial injuries, fractures, postsurgical pain, nerve entrapments and regional pain syndrome.

The GEL™ induces an accelerated fibrosis as seen in tissue remodeling, the last phase of tissue repair. This perineural matrix remodeling results in a physiologic neural compression as seen in patients with neuropathic pain.

“ From patients to rodents ”

☒ [youtube.com “neurodigm”](https://www.youtube.com/watch?v=neurodigm) to see drug validation video

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Tissue changes from disease, cancer, edema, aging, strain or trauma . . . can cause pressure on nerves

Most neural pain begins with a change in the soft tissues, not an incision