

# Topical Hyaluronan Treatment Of Neuropathic Pain And Pruritis

Tech ID: 34485 / UC Case 2022-057-0

## TECHNOLOGY DESCRIPTION

**UNMET NEED:** Chronic pain and pruritus remain poorly managed, particularly in conditions involving neuropathic pain. Existing topical and injectable treatments often have limited efficacy or focus only on structural healing. This technology addresses the critical need for targeted, receptor-mediated analgesics that can directly modulate pain at its source.

**TECHNOLOGY:** UCSF scientists discovered that topical high molecular weight hyaluronan (HMWH), combined with transdermal delivery enhancers, can effectively reduce neuropathic pain and pruritus in preclinical models. This innovation is currently in the proof-of-concept stage. HMWH, a major non-protein component of the ECM, is clinically used as an injection to treat pain conditions such as osteoarthritis, bladder pain syndrome, painful tendinopathy, and more.

## COMPETITIVE ADVANTAGE:

- ▶ **Receptor-mediated mechanism:** HMWH acts on CD44 receptors on nociceptors to reduce pain and sensitization.
- ▶ **Effective topical application:** Demonstrated efficacy in combination with permeation enhancers for transdermal delivery.
- ▶ **Broad therapeutic potential:** Applicable to poorly managed neuropathic pain and acute/chronic pruritus.
- ▶ **Novel mechanism of action:** Challenges traditional dogma by revealing ECM's active role in pain modulation beyond structural support.

This innovative approach offers significant promise for advancing pain management therapies and improving outcomes for patients with debilitating conditions.

## PATENT STATUS

Patent Pending

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## OTHER INFORMATION

### KEYWORDS

Pain, Hyaluronan, Pruritus

### CATEGORIZED AS

- ▶ **Biotechnology**
- ▶ Health
- ▶ **Medical**
- ▶ Disease: Dermatology
- ▶ Disease: Substance Abuse
- ▶ Therapeutics

### RELATED CASES

2022-057-0

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