

# Novel Topical Analgesics

Tech ID: 34479 / UC Case 2023-135-0

## TECHNOLOGY DESCRIPTION

**UNMET NEED:** Current topical analgesic formulations, both prescription and over-the-counter, often fail to achieve sufficient drug penetration to peripheral tissues, resulting in limited efficacy for managing pain and itching. Additionally, many existing options have systemic absorption risks, potential drug interactions, or addiction concerns, creating a gap for safe, targeted, and efficient alternatives.

**TECHNOLOGY:** By combining peripherally-acting drugs, such as opioids and NSAIDs, with enhancers like protamine, this invention achieves effective drug penetration through the skin's stratum corneum barrier, delivering high drug concentrations directly to the site of action.

**COMPETITIVE ADVANTAGE:** This innovative technology introduces a novel class of topical analgesics and anti-pruritic treatments that leverage transdermal drug delivery enhancers to overcome the limitations of traditional topical formulations. Unlike local anesthetics, these formulations provide potent pain relief and anti-itch effects without altering baseline nociceptive thresholds.

**DEVELOPMENT STAGE:** Currently in the proof-of-concept stage, this technology is supported by preclinical models demonstrating its efficacy in inflammatory and neuropathic pain settings.

## PATENT STATUS

Patent Pending

## CONTACT

Lei Wan

[lei.wan@ucsf.edu](mailto:lei.wan@ucsf.edu)

tel: .



## OTHER INFORMATION

### KEYWORDS

Pain, anesthetics, NSAIDs

### CATEGORIZED AS

- ▶ [Biotechnology](#)
- ▶ [Health](#)
- ▶ [Medical](#)
- ▶ [Disease: Central Nervous System](#)

### RELATED CASES

2023-135-0

## ADDRESS

**UCSF**

**Innovation Ventures**

600 16th St, Genentech Hall, S-272,

San Francisco, CA 94158

## CONTACT

Tel:

[innovation@ucsf.edu](mailto:innovation@ucsf.edu)

<https://innovation.ucsf.edu>

Fax:

## CONNECT

 Follow  Connect

© 2025, The Regents of the University of California

[Terms of use](#) [Privacy Notice](#)