

Long-Lasting, Non-Narcotic Protein for Treatment of Acute or Chronic Pain



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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a therapeutic molecule that provides stable, reversible regulation of spinal neurons that affect pain transmission and could be used to treat pain.

OVERVIEW

Millions of people in the U.S. suffer from chronic pain each year. Narcotic-based medications commonly are given for pain relief, but they are not always effective and can lead to addiction.

Botulinum toxin is a neurotoxin currently used to treat muscle spasms, migraines and excessive sweating. The botulinum protein is made of two chains, a heavy chain that targets it to neuronal cells and a light chain that cleaves synaptic proteins, eventually preventing the release of neurotransmitters. Because neurotransmitter release is linked to pain transmission, botulinum toxin potentially may be used to treat pain; however, the full length toxin affects all neurons (including those needed for involuntary activities like breathing), rather than just those involved in pain processing.

THE INVENTION

UW-Madison researchers have developed a chimeric protein that may be used to treat acute or chronic pain. The protein consists of a peptide ligand that specifically targets neurons involved in pain processing and a botulinum toxin light chain protein that blocks the release of neurotransmitters that cause pain. The therapeutic could be delivered through the spine to result in long-lasting, stable and reversible regulation of pain.

BUSINESS OPPORTUNITY

- The chronic pain market is huge and growing, estimated to be \$8-20 billion in 2010.

THE WARF ADVANTAGE

WARF: A Leader in Technology Transfer Since 1925

Since its founding as a private, nonprofit affiliate of the University of Wisconsin-Madison, WARF has provided patent and licensing services to UW-Madison and worked with commercial partners to transform university research into products that benefit society. WARF intellectual property managers and licensing staff members are leaders in the field of university-based technology transfer. They are familiar with the intricacies of patenting, have worked with researchers in relevant disciplines, understand industries and markets, and have negotiated innovative licensing strategies to meet the individual needs of business clients.

The University of Wisconsin and WARF – A Single Location to Accelerate Translational Development of New Drugs

UW-Madison has the integrative capabilities to complete many key components of the drug development cycle, from discovery through clinical trials. As one of the top research universities in the world, and one of the two best-funded universities for research in the country, UW-Madison offers state-of-the-art facilities unmatched by most public universities.

These include the Small Molecule Screening Facility at the UW Comprehensive Cancer Center; the Zeeh Pharmaceutical Experiment Station, which provides consulting and laboratory services for developing formulations and studying solubility, stability and more; the Waisman Clinical Biomanufacturing Facility; the Wisconsin Institute for Medical Research, which provides UW-Madison with a complete translational research facility; and the innovative, interdisciplinary Wisconsin Institutes for Discovery, home to the private, nonprofit Morgridge Institute for Research and its public twin, WID, part of the university's graduate school. The highly qualified experts at these facilities are ready to work with you to create a library of candidates for drug development.

APPLICATIONS

- Treating acute or chronic pain

KEY BENEFITS

- Reversible
- Stable and long-lasting
- Non-narcotic
- Specifically targeted to neurons associated with pain processing

STAGE OF DEVELOPMENT

Successfully tested in mice.

ADDITIONAL INFORMATION

Tech Fields

Pharmaceuticals & Vitamin D - Pain

CONTACT INFORMATION

For current licensing status, please contact Andy DeTienne at adetienne@warf.org or 608-960-9857.

