

# Accelerating Innovations into CarE – Validate Program (AICE-Validate)



## Development of Non-opioid, Non-addictive Chronic Pain Therapeutics

### PROJECT FAST FACTS

**RECIPIENT:** Dr. Gerald Zamponi of University of Calgary and Zymedyn Therapeutics

**AWARD:** \$300,000

**AWARD DATE:** October 1, 2024

**PROJECT DURATION:** 24 months

## THE PROBLEM

Chronic pain is a debilitating condition affecting between 20 to 30 per cent of adult Canadians, with treatment representing one of the most serious health challenges. Canadians with chronic pain miss an average of 28.5 workdays per year. Pain impacts more Albertans than cancer, diabetes and cardiovascular diseases combined. Current pain therapy relies on a number of drugs or narcotics, even though these treatments exhibit many serious side effects. A common issue with many existing pain relief drugs is that they often have been repurposed from other indications (such as antidepressants and antiepileptics), which contributes to side effects. Although opioids can be effective for post-surgical pain, they are not effective in neuropathic pain conditions. This shortcoming combined with negative economic impacts, like lost employee time, and with a lack of effective treatment options, underscores a pressing need for improved pain therapies.

## THE SOLUTION

Dr. Zamponi's team has discovered that pain regulators in cell channels can be inhibited and affect their interaction with potent analgesic effects in preclinical models of inflammatory and neuropathic pain. The team has identified a novel class of drugs that targets this interaction to cause pain relief. They identified certain molecules that they and their spinoff company, Zymedye Therapeutics, are pursuing Investigational New Drug (IND) enabling studies towards approval for a phase 1 clinical trial. They expect their approach to lead to a novel class of pain drugs that act with high affinity and specificity, leading to safer non addictive therapies for pain.

## PROJECT OBJECTIVES

1. *Perform Investigational New Drug (IND) enabling studies, as part of the regulatory approval process;*
2. *Design, synthesize and test novel cell channel disruptors; and*
3. *Conduct in vivo (live) analysis of drug molecules and derivatives.*

## ABOUT THE AICE-VALIDATE PROGRAM

*AICE-Validate is an opportunity for Alberta's health-tech innovators to accelerate commercialization of digital and data-enabled health technologies through the early validation phase. If you'd like to learn more, please check out [AICE Validate on the Alberta Innovates website](#).*

*Learn how*

**albertainnovates.ca**