

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



## Validating a New Method of Allergy Testing

### PROJECT FAST FACTS

**RECIPIENT:** Bio-Stream Diagnostics Inc.

**AWARD:** \$289,800

**AWARD DATE:** August 1, 2024

**PROJECT DURATION:** 12 months

## THE PROBLEM

The gold-standard for diagnosing food allergies is the oral food challenge (OFC). This procedure carries significant risks as patients ingest suspected allergy-inducing foods that may result in acute and even fatal allergic reactions. For this reason, an OFC is administered in a supervised environment with trained experts ready to treat allergic reactions and anaphylaxis. Other methods of detecting allergens, like performing skin prick and blood tests, sometimes result in an indeterminate diagnosis requiring an additional OFC. The basophil activation test (BAT) test was developed as a viable and non-invasive alternative to the OFC, especially for pediatric patients. Basophils are specific immune cells that mount a rapid response within a very short time to allergen exposure. This simple test can detect multiple allergens from a few drops of blood obtained from finger pricks. However, this test requires expensive equipment and highly trained personnel to conduct, making it unsuitable for remote areas, small clinics or home use.

## THE SOLUTION

The traxPlatform, from Bio-Stream Diagnostics, is a rapid, simple to use, low-cost biosensor platform for diagnostic testing of multiple allergens. The platform is composed of:

- myTrax™ mobile app for end users (the interpretation arm of the platform).
- traxReader™, a universal multiuse detection device (the data storage arm of the platform).
- traxSensor™, disposable sample collection sensors capable of sensing more than 30 biomarkers from a single sample solution (the data acquisition arm of the platform).

Bio-Stream Diagnostics intends to develop a convenient, rapid Basophil Activation Test (BAT) utilizing the traxPlatform to leverage the use of three-dimensional organic electrochemical transistors (OECT). This will expand access to food allergy testing, enabling more frequent testing.

## PROJECT OBJECTIVES

1. *Optimize concentration of allergen and ensure repeatability.*
2. *Third-party validation against clinical samples.*
3. *Validate test results from third parties' clinical samples including processes regarding usage.*

## 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**