

Fast E.coli test keeps bad food off shelves

November 23 2018, by Crystal Mackay



Dr. Michael Rieder, professor at Western University and scientist at Robarts Research Institute with his new rapid test kit for E. coli. Credit: University of Western Ontario

A new E.coli rapid testing kit developed by researchers at Western University is revolutionizing food safety testing by producing results within hours, not days – and ensuring contaminated food doesn't make it to the produce aisle of your neighbourhood grocery store.

The kit detects E. coli 0157, the same [food](#)-borne [bacteria](#) causing the current outbreak in the US and Canada linked to romaine lettuce. The kit has been approved by Health Canada and translated for commercial use. The first production lot of this assay was last summer and this kit is now making its way to food processing plants in North America.

"Our goal is to get the testing to occur as close as possible to the source," said Dr. Michael Rieder, professor at Western's Schulich School of Medicine & Dentistry and scientist at Robarts Research Institute. "This technology is not only faster, but it's less expensive, it's easy to use, and it can occur right in the processing plant."

Current food testing methods typically rely on culture, which requires samples to be sent away for testing, with results taking up to two weeks to come back. By that time, the food has often been shipped to market and large recalls have to occur.

The Western-developed kit detects a protein unique to the pathogenic *E. coli* bacteria, and using flow through technology is able show results in hours rather than days. The [process](#) works in much the same way as a pregnancy [test](#) – showing one line for negative and two lines for positive.

"We are looking at this specific biomarker because it is unique to this [pathogenic bacteria](#). The presence of bacteria itself isn't bad, but we want to be able to identify specific bacteria that will cause people to get sick," Rieder said. "The goal is a safer food chain for everyone so that public safety can be assured."

The system was developed as a result of collaborations between Dr. Rieder, a team at International Point of Care (IPOC), and London entrepreneurs, Craig Combe and the late Michael Brock. The commercialization and sale of the kits has been accomplished with industrial partners both in Canada and the United States. Much of the work was funded through grant from Mitacs, a federal non-profit that encourages academic and industrial collaboration.

Provided by University of Western Ontario

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