

# Detection and identification of Campylobacter spp.

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## Technology description

To develop a simple and sensitive method for the detection and identification of Campylobacter spp.

## Description

Researchers at the National Microbiology Laboratory (NML) in Winnipeg, Manitoba, have developed a simple, sensitive, Campylobacter. And produce replicable specific results. The kit can detect campylobacter within 3 hours and simultaneously identify the main strains of campylobacter even at very low concentrations. The toolkit does not use complex RFLP or DNA probe techniques. The NML kit used multiple polymerase chain reaction (PCR) methods to simultaneously detect the characteristic genes of all of the following strains in a single test: C. Jejenum, Escherichia coli, C. Larry, C. upsaliensis and C. Fetus. The strands of DNA molecules are isolated and used as a matrix to produce the same DNA molecule as the starting DNA molecule. The NML kit contains primers that can be linked to a single DNA strand. If a DNA strand carrying one of the genes of interest is found in the analyzed sample, complementary primers pair with it and regenerate the strand, reporting the presence of the gene and the strain of the gene. Campylobacter. It's about him.

Detection of hipO Gene and 23S rRNA Gene Targeted by NML Kit. C. Jejenum, GLIA gene for detection Escherichia coli, C. Larry and C. upsaliensis and sapB2 gene detection C. Fetus. It contains an amplification solution that promotes DNA strand polymerization and a positive control to confirm that the test was performed under conditions conducive to such polymerization. A test is performed on food or fecal samples that are considered contaminated with any of the pathogens of the genus Campylobacter. There is no need to prepare samples or isolate pathogens.

## Business Opportunities

The National Microbiology Laboratory has developed a kit for detecting bacteria Campylobacter. And determining the presence of one or more strains; It meets urgent needs by providing simple tests for use in clinical laboratories and examination sites. Its ease of use, sensitivity and reliability make it a common tool in a variety of medical practice and research environments, as well as in food inspection and water analysis settings. It is suitable for both civilian and military use and can conquer the world market.

## Challenges

Campylobacter. It is the main pathogen of bacterial gastroenteritis in the industrialized world. Br/ & gt; Campylobacter with diarrhea, stomach cramps, vomiting and fever. Dysentery can happen.

Bacteria Campylobacter. Contaminating food and water. Poultry is the main source Campylobacter. In humans. The United States reports 2.1 million to 2.4 million cases of Campylobacter infection and nearly 1,000 deaths each year.

There is an urgent need for a sensitive, rapid and easy-to-use detection kit capable of simultaneously and highly sensitive detection and identification of all species of the genus Campylobacter..

## Institution

[Public Health Agency of Canada \(PHAC\) - Agence de la santé publique du Canada \(ASPC\)](#)

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