



Microchip kit for detection of *Salmonella spp.* in food

Foodborne pathogens keep causing major public health problems worldwide. Many high-risk pathogens that cause diseases in humans and animals are transmitted through various food and feed. The microbiological safety of food has become an important concern of consumers, industry, and regulatory agencies. The identification of *Salmonella* in food is very important for food and feed safety control. Currently, the real-time PCR method is accepted by the food safety industry and referred to in national and industry standards.

Lumex Instruments real-time PCR kit is designed for fast, qualitative detection of *Salmonella spp.* in food samples (#007SG56). The kit is optimized for use with microchip based real-time PCR AriaDNA analyzer. To further enhance reliability of test results, a set of positive & negative controls, and internal control are also included in the microchip. As a portable device, this technology is able to run in stationary and mobile labs.



FEATURES AND BENEFITS

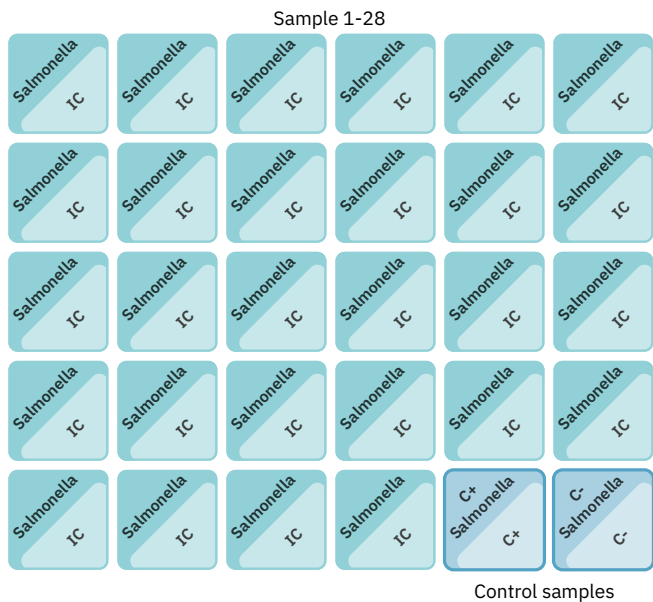
Microchip-based PCR technique:

- Increases reliability of detection and minimizes operator errors during detection of the pathogen
 - Ready-to-run microchips
 - Internal control assay for each sample
 - Positive and negative template controls on a microchip
- Simplifies qPCR reaction set up
 - All reagents are pre-dispensed and dried in microchip wells
 - Only the addition of a DNA sample to the microchip is needed
- Shortens qPCR analysis time to result
 - qPCR run is completed in 38 min due to fast temperature transitions
- Simplifies shipment & storage of the microchip kits
 - Shelf-life of lyophilized PCR reagents on microchip is up to 6 months

USER FRIENDLY SOFTWARE

AriaDNA software is designed to acquire real-time PCR data undergoing simplified operation steps. It offers auto-interpretation of results, allows manual analysis of data, and prints a report in compliance with 21 CFR part 11 requirements.

MICROCHIP LAYOUT



Test Panel & Fluorescence Detection*:

Salmonella spp. (invA)
IC (Internal control)

Controls:

C+ (Positive control sample)
C- (Negative control sample)

Number of unknown samples: 28

*In each well, the target on the right and left sides is detected on Channel 1 and 2, respectively.

ANALYSIS WORK-FLOW

1. Enrichment step: Enrichment encourages live targeted pathogens in a sample to multiply and reach a population number high enough to be detected accurately, reliably and reproducibly. Enrich all samples in 10-24h following recommended enrichment protocols.
2. DNA extraction step: Enriched sample is treated to extract DNA using commercial DNA extraction and purification kit.
3. Real-time PCR amplification step:
 - a. Microchip loading: Add extracted DNA into the ready-to-use microchip that contains lyophilized reagents.
 - b. Pre-set PCR program: Insert the microchip into the AriaDNA analyzer and run the analysis with a pre-set protocol on a computer.
4. Print report step: Obtain real-time PCR auto-interpreted results in 38 minutes. The report can be printed.

RESULTS OF PATHOGEN DETECTION

1. Real-time PCR data for up to 28 samples is obtained.
2. Results of *Salmonella* spp. and internal control assays are interpreted by AriaDNA software to obtain qualitative results for each sample.

Disclaimer:

For research use only (RUO). Information in this document is subject to change without notice. This kit is designed for in vitro qualitative detection of test target genomes with a broad detection profile. Specifically, the primers represent published homology with NCBI database reference sequences available at the time of design. We reserve the right to change, alter, or modify any product to enhance its performance and design, including the revision of assay sequences. Presumptive positive samples should be confirmed as per the laboratory standard operating procedures or by following the appropriate reference method confirmation, beginning with primary enrichment, selective media, and confirmation of isolates using appropriate biochemical and serological methods. The purchase of this product includes a non-transferable right for using only this quantity of product for the purchaser's own internal research. The microchip is a single-use device.

