

IDENTIFICATION OF **SALMONELLA** IN FOOD USING MICROCHIP REAL-TIME PCR ANALYZER ARIADNA® ACCORDING TO SNT1870-2016

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. Traditional methods for identifying Salmonella are time-consuming and laborious, so there is a need to introduce innovative methods for the rapid identification of the pathogen. Currently, real-time PCR method is accepted by food safety industry and referred in industry and local standards, such as **SNT1870-2016 “Method for the detection of Pathogens in Food for export – Real-time PCR method”**.



Microchip-based real-time PCR
analyzer AriaDNA



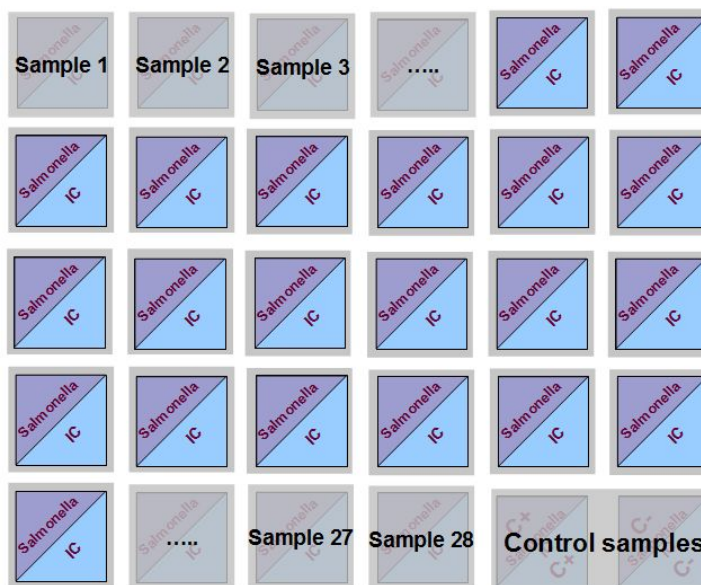
Nucleic acid extraction kit



Microchip kit for identification
of Salmonella

▶ TEST PANEL OF FOODBORNE PATHOGENS IN THE MICROCHIP KITS ACCORDING TO SNT1870-2016

- *Salmonella fimbriae* Y protein (*fimY*)



Layout of microchip for analysis of **28 samples** (in singlicate) or **14 samples** (in duplicate) according to **SNT1870-2016**. **Salmonella** test kit is shown along with Internal control (IC) test kit. Positive (**C+**) and negative (**C-**) control samples are included.



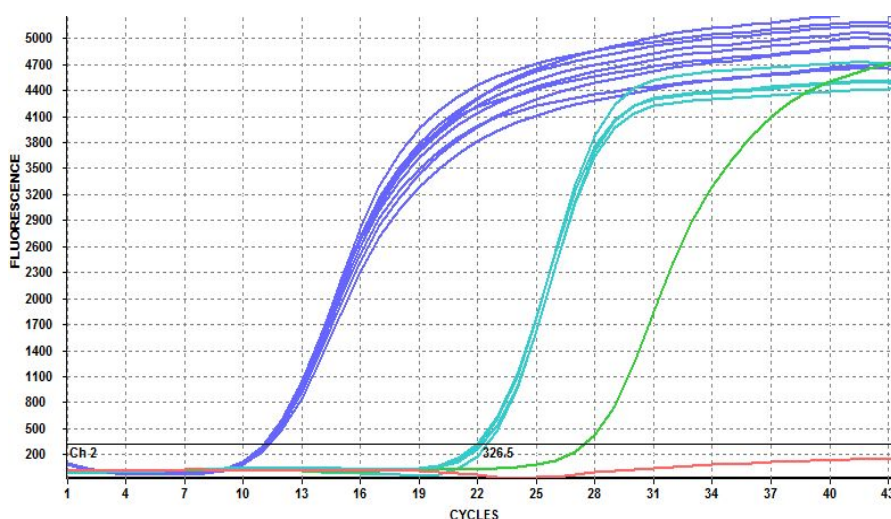
ADVANTAGES OF THE MICROCHIP-BASED REAL-TIME PCR

- Test kits are exactly the same as recommended by Chinese Standard
- High sensitivity and specificity confirmed by Standard's application practices
- Microchips with ready-to-use lyophilized PCR mixture reduce user labor
- Rapid analysis and lower test costs
- Analysis of **Salmonella** in 28 samples
- Minimize human error

ANALYSIS FLOW-CHART

1 Enrichment of food or feed sample using BPW (8-18 h) according to **GB4789.4—2010**.

2 Extract DNA from enrichment media (40-60 min) and add DNA solution into the microchip reactors



Results of microchip real-time PCR of raw chicken meat sample (n=9) against **Salmonella** test kit according to **SNT 1870-2016**. Results were positive for infected sample (**blue curves**). Internal controls (**IC**) are also positive (**cyan curves**), revealing no signs of inhibition. Positive (**green curve**) and negative (**red curve**) control samples demonstrate expected results.

3 Insert the microchip into the AriaDNA® analyzer and run the analysis via the software on a PC

4 Obtain real-time PCR results and print report in 45 minutes

The information and specifications in this publication are subject to change without notice.

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