S. Typhimurium PCR Detection Kit

Cat. No. *FPD-040*

Lot. No. (See product label)

Product Name

S. Typhimurium PCR Detection Kit

Product Overview

S. Typhimurium PCR Detection kit is designed for rapid, flexible, and specific detection of *Salmonella* Typhimurium in food and environmental samples (including primary production environments).

Antigen Description

Salmonella typhimurium is a group of non-adaptive or pantropic Salmonella, with a wide range of hosts, and is one of the bacterial types with the highest isolation rate in the world. The bacteria can cause various infectious diseases of poultry and mammals, and can also cause human infection, which has important public health significance.

Description

The *S.* Typhimurium Real Time PCR Detection kit provides rapid identification of DNA sequences specific to *Salmonella* Typhimurium in pork and poultry, and environmental samples. This test can be run in parallel with other kits.

The *S.* Typhimurium PCR Detection kit permits the rapid and specific detection of *S.* Typhimurium in food and environmental samples (including primary production environments) within a few hours after microbiological enrichment. Up to 94 samples can be processed with this easy-to-use procedure.

Species

Salmonella Typhimurium

Applications

Food safety

Warning

This test must be performed by trained personnel.

Samples and enrichment cultures must be handled as potentially infectious material and discarded according to local rules and regulations.

All potentially infectious material should be autoclaved before disposal.

Size

96 tests

Kit Components

Fluorescent probes

PCR amplification mix

Positive and negative PCR controls

Materials Required but Not Supplied

A. Equipment

Lab paddle blender for homogenizing test samples

Incubator for sample microbiological enrichment

Specific for extraction in sterile 1.5 mL conical screwcap tubes

-Benchtop centrifuge capable of 10,000-12,000 × g

-Dry heat block at 37 ± 2℃ and 95-100℃

-Cell disruptor, for example Disruptor Genie

Specific for extraction in deep well plate

-Heating thermoshaker capable of maintaining 37 ± 2℃ and 95-100℃, with a mixing speed of at least 1,300 rpm

Vortexer

20, 200, and 1,000 µL micropipets

FOR RESEARCH OR FURTHER MANUFACTURING USE ONLY

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Tips for repeat pipettors; sterile, individually packaged
B. Supplies
Enrichment medium
Chloramphenicol
Free DNA Removal Solution
Purification Reagent
Ethanol,96%
Filter sample bags
Powder-free gloves
Distilled sterile wate
Bleach, 5%

Technical Notes

PCR detection kit is based on the fast, sensitive, and proven technology of real-time PCR.

Assay Protocol

A. Sample Enrichment
Enrichment media must be at the appropriate incubation temperature (ambient, 37℃, or 41.5℃) before use.
Smaller sample sizes (up to 25 g)
1. Homogenize n g of sample in 9 × n mL BPW in a Stomacher bag with incorporated filter.
2. Incubate for 21 ± 1 h at 37 ± 1℃.
Larger sample sizes (> 25-375 g)
1. Homogenize n g of sample in 3 × n mL prewarmed BPW (for example, 375 g in 1,125 mL), in a Stomacher bag with incorporated filter.
2. Incubate for 21 ± 1 h at 37 ± 1℃.
Environmental swabs and sponges
1. Homogenize swabs in 10 mL and sponges in 60-90 mL BPW. It is recommended to use neutralizing broth that does not contain aryl sulfonate complex. Neutralizing broths containing aryl sulfonate complex may require additional dilutions of the DNA extract.
2. Incubate for 21 ± 1 h at 37 ± 1℃.
Primary production samples
1. Homogenize 1 swab in 100 mL BPW with RAPID'*Salmonella* supplement in a Stomacher bag with incorporated filter.
2. Incubate for 18-20 h at 41.5 ± 1℃.
3. Transfer 100 µL of enriched sample to 900 µL BPW in a deep well plate.
4. Incubate for 4-6 h at 37 ± 1 ℃.
B. Free DNA Removal Treatment
C. DNA Extraction
General recommendations:
1. Turn on the heat block or thermoshaker to preheat before starting the test. Set it to 95-100℃. Keep the lysis reagent in suspension while pipetting by stirring at medium speed on a magnetic stir plate.
2. In general, avoid shaking the enrichment bag and collecting large fragments of food debris. For food samples with a fatty supernatant, collect the sample just below this layer.
3. Open tubes and wells carefully to avoid any possible cross contamination.
4. Cool the deep well plate before pipetting directly through prepierced sealing film.
5. Use the magnetic bar to keep the lysis reagent in suspension. Pipet while it is stirring at medium speed.
6. Gently shake the lysis reagent by hand first to resuspend the resin. Pipet while the magnetic stir bar
D. Real-Time PCR
E. Data Analysis
is stirring the bottle contents at medium speed in order to keep the contents in suspension.

Sample Type

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Pork, poultry, and environmental samples

Max no. of Samples

94

Storage

This product should be stored at 2-8℃. Reagents stored at this temperature can be used until the expiration date indicated on the tubes.

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