

Probe qPCR Detecting Salmonella-STE_C derived species with Probe qPCR in Single Reaction Tube

| Catalog Number | Kit Size |
|----------------|------------|
| TBS42029-100 | 100 assays |
| TBS42029-200 | 200 assays |

DESCRIPTION

The Salmonella-STE_C Multiple qPCR Kit has been designed to identify Salmonella and STE_C derived strains in a single PCR reaction using real-time quantitative polymerase chain reaction (qPCR) and probe fluorescence labels. The detection of the target DNA confirms ingredient authenticity and prevents food fraud, ethical issues, or health concerns.

PRINCIPLE

Authenticating ingredients utilizes real-time PCR which is based on the amplification of a specific region of the relevant target genome. The amplified product is detected using target-specific fluorescent probes that bind to the amplified product. As the PCR product accumulates, there is an increased fluorescent signal from the bound probes. Monitoring the fluorescence intensities during the PCR run allows the detection of the accumulating PCR product in real time.

The Salmonella-STE_C qPCR Kit includes Salmonella and STE_C target positive and negative controls, PCR internal controls labeled with Hex, a qPCR super mix, and the primer-probe mix in which the probe has been labeled with Texas Red for Salmonella species and FAM for STE_C. These aid in a straightforward interpretation of the results.

KEY FEATURES

- ❖ High sensitivity and specificity for Salmonella and STE_C target detection.
- ❖ High efficiency: the optimal systemic conditions for PCR amplifications.
- ❖ Streamlined protocol: Just add DNA Template and water.
- ❖ No cross reactivity with other species.

APPLICATIONS

Detect Salmonella and STE_C target DNA in plant, cannabis, cannabis ingredients, grain, food, herbals, and animal feed.

KIT CONTENTS

| Name | 100x rxn | 200x rxn |
|----------------------|----------|----------|
| qPCR Super Mix | 0.8mL | 1.6mL |
| Primer-probe Mix | 0.6mL | 1.2mL |
| Positive Control DNA | 60µL | 100µL |
| Negative Control DNA | 60µL | 100µL |

The Salmonella probe is labeled with **Texas Red**, STE_C is labeled with **FAM**, and PCR internal control is labeled with **Hex**.

STORAGE CONDITION

The kit is shipped on ice and stored at -20°C for long-term storage. Shelf life of 12 months after receipt.

PCR PROTOCOL

1. Set up PCR reaction for each sample in 20 µL

| Reaction Component | Volume (µL) |
|---------------------|-------------|
| qPCR Super Mix | 7.0 |
| Primer-probe Mix | 5.0 |
| Nuclease-free Water | 3.0 |
| DNA sample | 5.0 |
| Final Volume | 20µL |

Internal control should be included as below: Positive Control (5µL DNA/reaction) Negative Control (5µL DNA/reaction)

2. Suggested PCR conditions

| Step | Amplification | PCR | |
|--------------------|---------------|--------------------|----------------|
| | HOLD | CYCLE (40x cycles) | |
| | | Denature | Anneal/ Extend |
| Temperature | 95°C | 95°C | 60°C |
| Time | 2 min | 15 sec | 60 sec |

DATA ANALYSIS

Positive Reaction: Sample Ct ≤ 37 w/ Positive, Negative and Blank controls normal.

Negative Reaction: Sample Ct ≥ 38 w/ Positive, Negative and Blank controls normal.

PCR internal control is positive in all samples, positive and negative controls. The positive response indicates a normal PCR amplification. Otherwise, the PCR reaction may be inhibited.

Repeat Reaction: If one of the control reactions is not normal, PCR reaction is failed, and should be repeated.

RELATIVE PRODUCTS

- TBS6025: Microbial DNA Magnetic Extraction
- TBS42020: Universal Aspergillus Species qPCR
- TBS42021: Aspergillus Flavus qPCR
- TBS42022: Aspergillus Fumigatus qPCR
- TBS42023: Aspergillus Niger qPCR
- TBS42024: Aspergillus Terreus qPCR
- TBS42025:4-In-1 Aspergillus qPCR
- TBS42026: O157H7 E. coli qPCR
- TBS42027: STE_C qPCR
- TBS42028: Salmonella qPCR
- TBS42030: Mycoplasma Detection qPCR
- TBS42031: Listeria Monocytogen qPCR
- TBS42032: Listeria Genus qPCR
- TBS42033: Bacillus Cereus qPCR

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