DESCRIPTION

The Salmonella-STEC Multiple qPCR Kit is designed for identifying Salmonella species and Shiga toxin producing *Escherichia Coli* (STEC) in a one PCR amplification reaction using real-time quantitative polymerase chain reaction(qPCR) and probe label. The detection of target DNA confirms ingredient authenticity or prevents food fraud, ethical issues, or health concerns.

PRINCIPLE

Authenticating ingredients using real-time PCR 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-STEC qPCR Kit include Salmonella-STEC Positive and Negative controls, and PCR internal controls, 2x qPCR Super Mix, Salmonella-STEC Multiple Prime-Probe Mix, in which the probe is labeled with Texas Red for salmonella, Fam is labeled for STEC, and Hex is labeled for PCR internal control. These aids in the straightforward interpretation of the results (see the table "Summary of possible PCR outcomes").

APPLICATIONS

Detect Salmonella-STEC derived DNA in plant, cannabis, grain, food and animal feed.

KIT CONTENTS *Sufficient for 100 x 20μL*

Name	Volume
Tribo™ 2x qPCP Super Mix	1.0 mL
Primer-probe Mix	0.5mL
Positive Control DNA	50 μL
Negative Control DNA	50 μL

The Salmonella probe is labeled with Texas Red;
STEC is labeled with FAM;
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.

KEY FEATURES

- ❖ Highly sensitive and specific for Solmonella and STEC species.
- ❖ High efficiency: the optimal buffer condition and specific engineered Taq DNA polymerase have increased the efficiency of PCR amplifications.
- ❖ Streamlined protocol: Just add DNA Template, and water.
- ❖ No cross reactivity with other species.

PCR PROTOCOL

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

Reaction Component	Volume (μL) Per Sample
Tribo™ 2x qPCP Super Mix	10.0
Primer-probe Mix	5.0
DNA sample	5.0

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

2. Suggested PCR conditions

Step	Amplification	PCR	
	HOLD	CYCLE (40 cycles)	
		Denature	Anneal/ Exte
Temperature	95 °C	95 °C	62 °C
Time	2 min	10 sec	30 sec

DATA ANALYSIS

Positive Reaction: Sample Ct < or = 35， and Positive, Negative and Blank controls are normal.
Negative Reaction: Sample Ct > 35，and Positive, Negative and Blank controls are 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
TBS42025: 4-in-One Aspergillus qPCR Kit
TBS42026: O157H7 E. Coli qPCR
TBS42027: STEC qPCR
TBS42028: Samonella qPCR
TBS42030: Mycoplasma Detection qPCR
TBS 42020: Universal Aspergillus qPCR
TBS42021: Aspergillus Flavus qPCR
TBS42022: Aspergillus Fumigatus qPCR
TBS42023: Aspergillus Niger qPCR
TBS42024: Aspergillus Terreus qPCR

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