

Probe qPCR Detecting Bacillus Species in One Reaction Tube

Catalog Number

TBS42034-100

TBS42034-200

Kit Size

100 assays

200 assays

DESCRIPTION

The Bacillus Species qPCR Kit has been designed specifically to identify the bacillus species in a single PCR reaction using real-time quantitative polymerase chain reaction (qPCR) and probe fluorescent 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.

Tribioscience's Bacillus Species qPCR Kit includes bacillus 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 FAM for the target gene. These aid in a straightforward interpretation of the results.

KEY FEATURES

- ❖ High sensitivity and specificity for all bacillus cereus species.
- ❖ 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 aspergillus-derived DNA in plant, cannabis, cannabis ingredients, grain, food, herbals, and animal feed.

KIT CONTENTS

Name	100x rxn	200x rxn
qPCR Super Mix (B1)	0.8mL	1.6mL
Primer-probe Mix (B2)	0.6mL	1.2mL
Positive Control DNA (B ⁺)	60µL	100µL
Negative Control DNA (B ⁻)	60µL	100µL

The bacillus target probe has been labeled with **FAM** while the PCR internal control has been 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 20µL

Reaction Component	Volume (µL)
qPCR Super Mix (B1)	7.0
Primer-probe Mix (B2)	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	
		CYCLE (40x cycles)	
	HOLD	Denature	Anneal/ Extend
Temperature	95°C	95°C	60°C
Time	2 min	15 sec	30 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

TBS42026: O157H7 E. Coli qPCR

TBS 42020: Universal Aspergillus qPCR

TBS42021: Aspergillus Flavus qPCR

TBS42022: Aspergillus Fumigatus qPCR

TBS42023: Aspergillus Niger qPCR

TBS42024: Aspergillus Terreus qPCR

TBS42025: 4-In-1 Aspergillus qPCR

TBS42027: STEC qPCR

TBS42028: Salmonella qPCR

TBS42029: STEC and Salmonella Multiple qPCR

TBS42030: Mycoplasma Detection qPCR

TBS42031: Listeria Monocytogenes qPCR

TBS42032: Listeria Species qPCR

TBS42033: Bacillus Cereus qPCR

For research use only.