

## Bacillus Subtilis qPCR Kit (TBS42053)

*Probe qPCR Detecting Bacillus Subtilis Species in One Reaction Tube*

### Catalog Number

TBS42053-100  
TBS42053-200

### Kit Size

100 assays  
200 assays

### DESCRIPTION

The Bacillus Subtilis qPCR Kit has been designed specifically to identify bacillus subtilis species in a single PCR reaction using real-time quantitative polymerase chain reaction (qPCR) and probe fluorescent labels. The detection of target DNA confirms ingredient authenticity and prevents food fraud, ethical issues, or health concerns.

The Probe real-time PCR is based on the amplification of a specific region of the relevant target genome primers and probe. 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 Subtilis qPCR Kit includes bacillus subtilis positive and negative controls, PCR internal controls labeled with Hex, a qPCR super mix, and the primer-probe mix in which the probe has 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 subtilis 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 bacillus-derived DNA in plant, cannabis, cannabis ingredients, grain, food, herbals, and animal feed.

### KIT CONTENTS

Name	100x rxn	200x rxn
qPCR Super Mix (BS1)	0.8mL	1.6mL
Primer-probe Mix (BS2)	0.6mL	1.2mL
Positive Control DNA (BS <sup>+</sup> )	60μL	100μL
Negative Control DNA (BS <sup>-</sup> )	60μL	100μL

The bacillus subtilis 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

DNA preparation is performed with suitable methods. We recommend our Microbial DNA Magnetic Extraction (TBS60025), and Dead Bacterial DNA Eraser (TBS6039).

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

Reaction Component	Volume (μL)
qPCR Super Mix (BS1)	7.0
Primer-probe Mix (BS2)	5.0
Nuclease-free Water	3.0
DNA sample	5.0
<b>Final Volume</b>	<b>20μL</b>

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)	
	<b>HOLD</b>	Denature	Anneal/ Extend
<b>Temperature</b>	95°C	95°C	60°C
<b>Time</b>	1 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

TBS6039: Dead Bacterial DNA Eraser

TBS42024: Aspergillus Terreus qPCR

TBS42025: 4-In-1 Aspergillus qPCR

TBS42029: STEC and Salmonella Multiple qPCR

TBS42030: Mycoplasma Detection qPCR

TBS42031: Listeria Monocytogenes qPCR

TBS42032: Listeria Species qPCR

TBS42033: Bacillus Cereus Species qPCR

TBS42034: Bacillus Species qPCR

TBS42050: Staphylococcus-Pseudomonas Multiple qPCR

TBS42051: E. Coli and Salmonella Multiple qPCR

TBS42054: Bacillus Lichniformis qPCR

**For research use only.**