Probe based qPCR for Alternaria species Detection

Catalog Number	Kit Size
TBS42068-100	100
TBS42068-200	200

DESCRIPTION

The Alternaria Species TaqProbe qPCR Detection is designed to identify the Alternaria genus species in a single PCR reaction using real-time quantitative polymerase chain reaction (qPCR) and probe fluorescence labels. The detection of target DNA confirms ingredient authenticity or prevents food fraud, ethical issues, environmental 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.

Tribioscience's Alternaria Species TaqProbe qPCR Detection includes Alternaria SPP 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 alternaria 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 alternaria-derived DNA in plant, cannabis, cannabis ingredients, grain, food, herbals, and animal feed.

KIT CONTENTS

Name	100x rxn	200x rxn
qPCP Super Mix	0.8mL	1.6mL
Primer-probe Mix	0.5mL	1.2mL
Positive Control	60µL	100µL
Negative Control	60µL	100µL

The alternaria probe 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 20µL

Reaction Component	Volume (µL)
qPCR Super Mix	7.0
Primer-probe Mix	4.0
Nuclease-free Water	4.0
DNA sample	5.0
Final Volume	20µL

Internal control should be included as below: Positive Control (5µL DNA/reaction); Negative Control (5µL DNA/reaction) in suitable well.

2. Suggested PCR conditions

Step	Amplification	PCR	
	HOLD	CYCLE (40x cycles)	
		Denature	Anneal/ Extend
Temperature	95°C	95°C	60°C
Time	1 min	10 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
TBS42026: O157H7 E. Coli qPCR
TBS42018: Trichothecene-producing Fusarium Species TaqProbe qPCR Detection
TBS42020: 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 Genus qPCR
TBS42033: Bacillus Cereus qPCR
TBS42043: Bacillus Species qPCR

For research use only.

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