Tribioscience

Gluten qPCR Detection Kit

Probe qPCR for Detecting Gluten in One Reaction Tube

Catalog Number	Kit Size
TBS42070-100	100 assays

DESCRIPTION

The Gluten qPCR Detection Kit is designed for identifying gluten-containing cereal DNA in a single PCR reaction using real-time quantitative polymerase chain reaction (qPCR) and fluorescent probe technology. The detection of target DNA can help confirm ingredient authenticity and prevent food fraud, ethical issues, and potential 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 Gluten qPCR Detection Kit includes gluten-containing cereal positive and negative controls, PCR internal controls labeled with HEX, a qPCR super mix, and a primer-probe mix in which the target-specific probe is labeled with FAM. These components aid in a straightforward interpretation of the results.

KEY FEATURES

- ❖ High sensitivity and specificity for gluten-containing cereal DNA.
- ❖ High efficiency: optimal systemic conditions for PCR amplification.
- ❖ Streamlined protocol: Just add DNA Template and water.
- ❖ No cross-reactivity with other species.

APPLICATIONS

Detect gluten-containing DNA in food, grain, plant-based products, herbal products, and animal feed.

KIT CONTENTS

Name	100x rxn
qPCR Super Mix (A1)	0.8mL
Primer-probe Mix (A2)	0.6mL
Positive Control DNA (A^+)	60µL
Negative Control DNA (A^-)	60µL

The target-specific 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 (A1)	7.0
Primer-probe Mix(A2)	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
TBS42026: O157H7 E. Coli qPCR
TBS42027: STEC qPCR
TBS42028: Salmonella qPCR
TBS42029: STEC and Salmonella Multiple qPCR
TBS42030: Mycoplasma Detection qPCR
TBS42031: Listeria Monocytogen qPCR
TBS42032: Listeria Genus qPCR
TBS42033: Bacillus Cereus qPCR
TBS42020: Universal Aspergillus qPCR
TBS42021: Aspergillus Flavus qPCR
TBS42022: Aspergillus Fumigatus qPCR
TBS42023: Aspergillus Niger qPCR
TBS42024: Aspergillus Terreus qPCR

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