Tribioscience

blaOXA-58 qPCR Kit (TBS42062)

Probe qPCR Detecting blaOXA-58 Gene in One Reaction Tube

Catalog Number	Kit Size
TBS42062-100	100 assays
TBS42062-200	200 assays

DESCRIPTION

blaOXA-58 is a gene that can hydrolyze β-lactam antibiotics, including penicillins, cephalosporins, and carbapenems, rendering these antibiotics ineffective against bacteria harboring this gene. The gene is often located on plasmids, facilitating its transfer between bacteria and contributing to the spread of antibiotic resistance. Therefore, research on blaOXA-58 is vital for guiding the development of treatments targeting resistant bacteria.

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 blaOXA-58 qPCR Kit includes blaOXA-58 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 blaOXA-58 gene.
- ❖ High efficiency: the optimal systemic conditions for PCR amplifications.
- ❖ Streamlined protocol: just add DNA Template and water.
- ❖ No cross reactivity with other genes.

APPLICATIONS

Detect blaOXA-58 gene in clinical specimens, environmental samples, and bacterial isolates.

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	120µL
Negative Control DNA (B^-)	60µL	120µL

The blaOXA-58 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)	4.0
Nuclease-free Water	4.0
DNA sample	5.0
Final Volume	20µL

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

2. Suggested PCR conditions

Step	Amplification	PCR	
	HOLD	CYCLE (40x cycles)	
		Denature	Anneal/ Extend
Temperature	94°C	94°C	62°C
Time	1 min	10 sec	1min

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 Eraser Kit
TBS42026: O157H7 E. Coli qPCR
TBS42014: Arabis Mosaic Virus RT-qPCR Detection System
TBS42015: Hop Latent Viroid RT-qPCR Detection System
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
TBS42031: Listeria Monocytogenes qPCR
TBS42032: Listeria Species qPCR
TBS42033: Bacillus Cereus qPCR
TBS52050: Staphylococcus – Pseudomonas Multiple qPCR
TBS42051: E. Cole Salmonella Multiple qPCR

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