

Microbial DNA qPCR Multi-Assay Kit

MRSA: Methicillin-resistant *S. aureus*

Cat. no. 330043 BBID-1526ZR-5

For real-time PCR-based, application-specific microbial identification or profiling

The Methicillin-Resistant *Staphylococcus aureus* Microbial qPCR DNA Multi-Assay Kit is a research tool used to screen for methicillin-resistant *S. aureus*. This multi-assay kit provides microbiology researchers with a convenient way to quickly detect the presence of methicillin-resistant *S. aureus* in isolated bacterial colonies, blood cultures, metagenomic samples, or other sample types. The kit contains assays for detecting *S. aureus*, *mecA* antibiotic resistance gene, and the virulence factor genes *lukF* and *spa*. The qPCR Multi-Assay Kit contains assays using PCR amplification primers and hydrolysis-probe detection, which increases the specificity of each assay. The kit also contains Microbial qPCR Mastermix, Microbial DNA-Free Water, Microbial DNA Positive Control, and Positive PCR Control. The Positive PCR Control assay is included to test for the presence of PCR inhibitors or the efficiency of the polymerase chain reaction. Identification of whether methicillin-resistant *Staphylococcus aureus* is present in a sample is accomplished using data analysis software with imported CT values generated by the PCR instrument software. The simplicity of the product format and operating procedure allow routine and reliable screening of methicillin-resistant *Staphylococcus aureus* from samples in any research laboratory with access to a real-time PCR instrument.

For further details, consult the *Microbial DNA qPCR Handbook*.

Microbial DNA qPCR Multi-Assay Kits contents

Number of reactions	20 (25 µl PCR reactions)
Microbial DNA qPCR Assay BPID00314A	1 tube (20 µl)
Microbial DNA qPCR Assay BPAR00374A	1 tube (20 µl)
Microbial DNA qPCR Assay BPVF00517A	1 tube (20 µl)
Microbial DNA qPCR Assay BPVF00518A	1 tube (20 µl)
Positive PCR Control (PPC)	1 tube (20 µl)
Microbial DNA Positive Control	1 tube (50 µl)

Number of reactions	20 (25 µl PCR reactions)
Microbial DNA-Free Water	1 or 2 tubes (1.35 ml each), depending on number of assays
Microbial qPCR Mastermix	1 or 2 tubes (1.35 ml each), depending on number of assays



Quality control data

Assay BPID00314A name	S. aureus
Assay BPID00314A No Template Control CT>35	Pass
Assay BPID00314A DNA Positive Control Template CT<34	Pass
Positive PCR Control CT = 22 ± 2	Pass
Microbial DNA Positive Control, CT<34	Pass
Microbial DNA-Free Water, free of contaminating DNA	Pass

Assay BPAR00374A name	mecA
Assay BPAR00374A No Template Control CT>35	Pass
Assay BPAR00374A DNA Positive Control Template CT<34	Pass
Positive PCR Control CT = 22 ± 2	Pass
Microbial DNA Positive Control, CT<34	Pass
Microbial DNA-Free Water, free of contaminating DNA	Pass

Assay BPVF00517A name	lukF
Assay BPVF00517A No Template Control CT>35	Pass
Assay BPVF00517A DNA Positive Control Template CT<34	Pass
Positive PCR Control CT = 22 ± 2	Pass
Microbial DNA Positive Control, CT<34	Pass
Microbial DNA-Free Water, free of contaminating DNA	Pass

Assay BPVF00518A name	spa
Assay BPVF00518A No Template Control CT>35	Pass
Assay BPVF00518A DNA Positive Control Template CT<34	Pass
Positive PCR Control CT = 22 ± 2	Pass
Microbial DNA Positive Control, CT<34	Pass
Microbial DNA-Free Water, free of contaminating DNA	Pass

Shipping and storage

Microbial DNA qPCR Multi-Assay Kits are shipped on blue ice packs. For long-term storage, keep Microbial DNA qPCR Multi-Assay Kits at –20°C. Microbial qPCR Mastermixes are shipped on blue ice packs. For long-term storage, keep Microbial qPCR Mastermixes at –20°C. Microbial DNA-Free Water is shipped at ambient



temperature or on blue ice packs. If unopened, Microbial DNA-Free Water can be stored at room temperature or at -20°C . If tube is opened, store Microbial DNA-Free Water at -20°C . Discard tube of Microbial DNA-Free Water if opened three times and use fresh tube of Microbial DNA-Free Water for future experiments.

Note: Ensure that you have the correct Microbial qPCR Mastermixes, with the correct reference dye if required, for your instrument.

Note: Open the package and store the products appropriately immediately upon receipt.

Assay Table

Assay #	Species (NCBI Tax ID)/Gene	NCBI Tax ID	Antibiotic classification / Gene Description	May detect (species) / Also detect (antibiotic resistance genes) / Associated species (virulence factor genes)	Sensitivity	Assay Catalog #
1	Staphylococcus aureus	1280		Staphylococcus epidermidis(1282)	100	BPID00314A
2	mecA		Beta-lactam resistance		40	BPAR00374A
3	lukF		Panton-Valentine leukocidin chain F precursor	Staphylococcus aureus	20	BPVF00517A
4	spa		Immunoglobulin G binding protein A precursor	Staphylococcus aureus	200	BPVF00518A

PCR plate loading sequence

Position	Species/gene	Template
A1	Staphylococcus aureus	NTC
A2	mecA	NTC
A3	lukF	NTC
A4	spa	NTC
A5	Staphylococcus aureus	Microbial DNA Positive Control
A6	mecA	Microbial DNA Positive Control
A7	lukF	Microbial DNA Positive Control
A8	spa	Microbial DNA Positive Control
A9	Staphylococcus aureus	Sample 1
A10	mecA	Sample 1
A11	lukF	Sample 1
A12	spa	Sample 1
B1	Staphylococcus aureus	NTC
B2	mecA	NTC
B3	lukF	NTC
B4	spa	NTC
B5	Staphylococcus aureus	Microbial DNA Positive Control
B6	mecA	Microbial DNA Positive Control
B7	lukF	Microbial DNA Positive Control
B8	spa	Microbial DNA Positive Control
B9	Staphylococcus aureus	Sample 2
B10	mecA	Sample 2
B11	lukF	Sample 2
B12	spa	Sample 2
C1	Staphylococcus aureus	NTC
C2	mecA	NTC
C3	lukF	NTC
C4	spa	NTC
C5	Staphylococcus aureus	Microbial DNA Positive Control
C6	mecA	Microbial DNA Positive Control
C7	lukF	Microbial DNA Positive Control
C8	spa	Microbial DNA Positive Control
C9	Staphylococcus aureus	Sample 3
C10	mecA	Sample 3
C11	lukF	Sample 3
C12	spa	Sample 3
D1	Staphylococcus aureus	NTC
D2	mecA	NTC
D3	lukF	NTC
D4	spa	NTC
D5	Staphylococcus aureus	Microbial DNA Positive Control
D6	mecA	Microbial DNA Positive Control
D7	lukF	Microbial DNA Positive Control
D8	spa	Microbial DNA Positive Control
D9	Staphylococcus aureus	Sample 4
D10	mecA	Sample 4
D11	lukF	Sample 4
D12	spa	Sample 4
E1	Staphylococcus aureus	NTC
E2	mecA	NTC

Position	Species/gene	Template
E3	lukF	NTC
E4	spa	NTC
E5	Staphylococcus aureus	Microbial DNA Positive Control
E6	mecA	Microbial DNA Positive Control
E7	lukF	Microbial DNA Positive Control
E8	spa	Microbial DNA Positive Control
E9	Staphylococcus aureus	Sample 5
E10	mecA	Sample 5
E11	lukF	Sample 5
E12	spa	Sample 5
F1	Staphylococcus aureus	NTC
F2	mecA	NTC
F3	lukF	NTC
F4	spa	NTC
F5	Staphylococcus aureus	Microbial DNA Positive Control
F6	mecA	Microbial DNA Positive Control
F7	lukF	Microbial DNA Positive Control
F8	spa	Microbial DNA Positive Control
F9	Staphylococcus aureus	Sample 6
F10	mecA	Sample 6
F11	lukF	Sample 6
F12	spa	Sample 6
G1	Staphylococcus aureus	NTC
G2	mecA	NTC
G3	lukF	NTC
G4	spa	NTC
G5	Staphylococcus aureus	Microbial DNA Positive Control
G6	mecA	Microbial DNA Positive Control
G7	lukF	Microbial DNA Positive Control
G8	spa	Microbial DNA Positive Control
G9	Staphylococcus aureus	Sample 7
G10	mecA	Sample 7
G11	lukF	Sample 7
G12	spa	Sample 7
H1	PPC	Sample 1
H2	PPC	Sample 2
H3	PPC	Sample 3
H4	PPC	Sample 4
H5	PPC	Sample 5
H6	PPC	Sample 6
H7	PPC	Sample 7
H8	Empty	Empty
H9	Empty	Empty
H10	Empty	Empty
H11	Empty	Empty
H12	Empty	Empty

Ordering Information

Product	Contents	Cat. no.
Microbial DNA qPCR Multi-Assay Kit	One 20 μ l tube for each Microbial DNA qPCR Assay, 1 tube Positive PCR Control (20 μ l), 1 tube Microbial DNA Positive Control (20 μ l), 1 or 2 tubes Microbial DNA-Free Water (1.35 ml each), 1 or 2 tubes Microbial qPCR Mastermix (1.35 ml each)	330043

Microbial DNA qPCR Multi-Assay Kits are intended for molecular biology use only. These products are not intended for the diagnosis, prevention, or treatment of a disease.

Learn more at www.qiagen.com!

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Sample & Assay Technologies