Lusis

VeraPoint Antimicrobial Resistance (AMR) Key Product

Antimicrobial resistance (AMR) is constantly evolving. With resistance genes acquired through spontaneous mutation or gene transfer, keeping track of which microbes possess which resistance factors can be difficult. In addition, point mutations which create subtypes within genes further increase the difficulty in characterization of AMR. Together, this highlights the need for continuous monitoring and research.

Lusis offers highly sensitive qPCR-based research assays for rapid identification of common antimicrobial resistance targets for infectious disease applications, such as urinary tract and wound infections.

Antimicrobial Resistance Targets and Drug Class

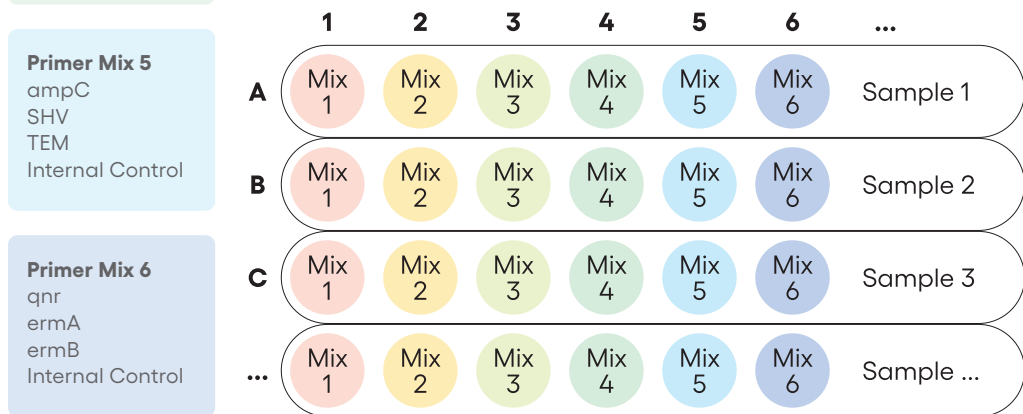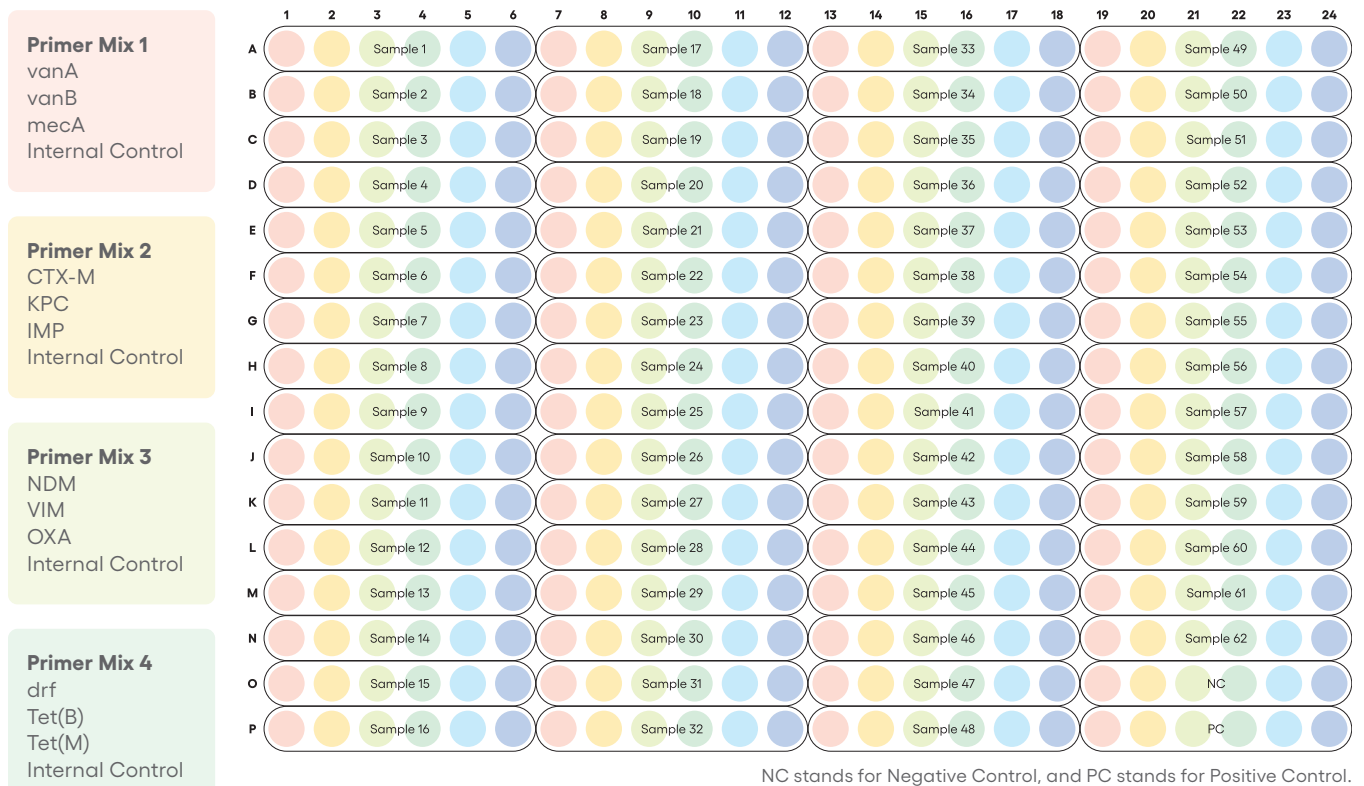**List of VeraPoint Antimicrobial Resistance (AMR) Max gene targets and associated drug class**

Antimicrobial	Resistance Gene	Covered Subtypes
Carbapenem	KPC	KPC-2, KPC-3
	IMP	IMP-1, IMP-4, IMP-6, IMP-8, IMP-11, IMP-26, IMP-60
	NDM	NDM-1, NDM-2
	VIM	
	OXA	OXA-23, OXA-48
ESBL (3rd generation Cephalosporins)	CTX-M	CTX-M-1, CTX-M-2, CTX-M-9, CTX-M-15
	ampC	
	SHV	
	TEM	
Fluoroquinolones	qnr	qnrA, qnrB, qnrS
Methicillin Resistance	mecA	
Vancomycin	vanA	
	vanB	
Trimethoprim	drf	dfrA1, dfrA5
Tetracyclines	Tet(B)	
	Tet(M)	
Macrolides	ermA	
	ermB	

The Power of Multiplexing

A key advantage of Lusis' AMR reagents is their multiplexing capability, utilizing **up to four channels per well**. This feature enables the simultaneous detection of multiple targets per well, allowing laboratories to save on reagents and personnel costs. Furthermore, laboratories can detect more targets using less sample, optimizing plate utilization and reducing turnaround time when instrument capacity is limited.

Multiplex — Targets 1 / 2 / 3 / 4

Single plex — Target 1, Target 2, Target 3, Target 4
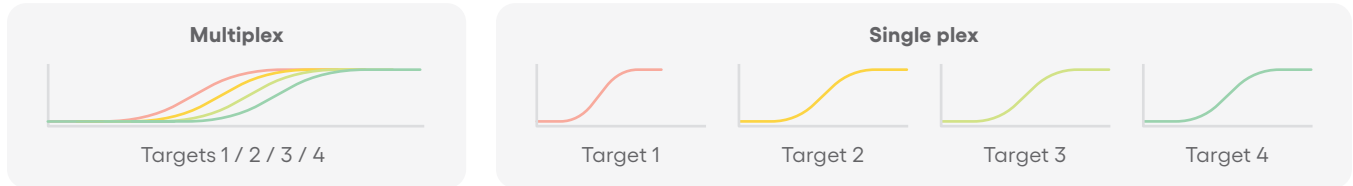
Example 384-well Plate Map - Antimicrobial Resistance (AMR) Max, 20 μL

Primer Mix 1
vanA
vanB
mecA
Internal Control

Primer Mix 2
CTX-M
KPC
IMP
Internal Control

Primer Mix 3
NDM
VIM
OXA
Internal Control

Primer Mix 4
drf
Tet(B)
Tet(M)
Internal Control

Primer Mix 5
ampC
SHV
TEM
Internal Control

Primer Mix 6
qnr
ermA
ermB
Internal Control

NC stands for Negative Control, and PC stands for Positive Control.

Instrument Compatibility

Lusis' AMR qPCR reagents are compatible with instruments calibrated for **FAM**, **HEX/VIC**, **ROX**, and **CY5** channels, from a single tube to 384-well blocks.

Internal validation has been conducted with the following instruments: Lusis Biosciences Q-Vera, Q-Vera Pico, Applied Biosciences® 7500, QuantStudio™ 5, QuantStudio™ 7 Flex, QuantStudio™ 7 Pro, and Bio-Rad CFX96™.

Dedicated Service

Lusis' Field Application Scientists provide in-person and remote support to laboratories, ensuring optimal product utilization. Consulting and training sessions equip laboratory teams with the necessary knowledge and skills for successful qPCR application adoption and workflow execution. Additionally, dedicated Customer and Technical Support teams are available to promptly address any customer requests. Together, Lusis' Total Solution Partnership is designed to support research laboratories at every step of the way.
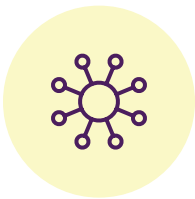
Broad Product Portfolio

Lusis' product catalog offers hundreds of ready-made assays and targets across a range of infectious disease applications. Robust product development pipelines, with expertise in custom panel design, also allow for customized assays and reagents. Lusis' manufacturing capabilities ensure the timely delivery of these molecular solutions that enable research laboratories to differentiate and to evolve with changing market conditions and opportunities for test menu expansion.

Ordering Information

All VeraPoint reagents are designed to support **240 samples**.

Part Number	Product	Primer Mix Name	Channel	Antimicrobial	Resistance Gene Targets	Maximum Number of Samples
LNMC10	Antimicrobial Resistance (AMR) Max, 20 µL	AMR Max, 20 µL: Primer Mix 1	FAM	Vancomycin	vanA	96-well Plate: 14 + NC + PC 384-well Plate: 62 + NC + PC
			VIC		vanB	
			ROX	Methicillin	mecA	
			CY5	N/A	Internal Control	
		AMR Max, 20 µL: Primer Mix 2	FAM	ESBL	CTX-M	
			VIC	Carbapenem	KPC	
			ROX		IMP	
			CY5	N/A	Internal Control	
		AMR Max, 20 µL: Primer Mix 3	FAM	Carbapenem	NDM	
			VIC		VIM	
			ROX		OXA	
			CY5	N/A	Internal Control	
		AMR Max, 20 µL: Primer Mix 4	FAM	Trimethoprim	drf	
			VIC	Tetracyclines	Tet(B)	
			ROX		Tet(M)	
			CY5	N/A	Internal Control	
		AMR Max, 20 µL: Primer Mix 5	FAM	ESBL	ampC	
			VIC		SHV	
			ROX		TEM	
			CY5	N/A	Internal Control	
		AMR Max, 20 µL: Primer Mix 6	FAM	Fluoroquinolones	qnr	
			VIC	Macrolides	ermA	
			ROX		ermB	
			CY5	N/A	Internal Control	

NC stands for Negative Control, and PC stands for Positive Control.

For more information or to place an order, please contact your Lusis sales representative or e-mail us at **sales@lusisbio.com**