Subject: New MIC Testing Panel for Gram-Positive Antibiotics at NARA

Dear Colleagues,

As part of its mission as the Swiss National Reference Centre for the emergence of antibiotic resistance (NARA), we are pleased to inform you about the implementation and validation of a **new antimicrobial susceptibility testing panel for Gram-positive bacteria**, designed for *Staphylococcus* spp. and *Enterococcus* spp. MIC testing is performed using broth microdilution (customized Sensititre plate, Thermofisher), following EUCAST standards, with concentration ranges designed to cover clinically relevant breakpoints or ECOFF values.

The current panel includes the following antibiotics:

Antibiotic	MIC range (mg/L)
Ceftobiprole	0.06 – 16
Ceftaroline	0.125 – 32
Dalbavancin	0.016 – 4
Daptomycin	0.25 – 32
Delafloxacin	0.008 – 1

Antibiotic	MIC range (mg/L)
Linezolid	0.25 – 64
Oritavancin	0.008 – 2
Teicoplanin	0.25 – 64
Tigecycline	0.03 – 8
Tedizolid	0.06 – 4
Vancomycin	0.5 – 128

Several new antibiotics available for treatment have been included in the panel such as ceftobiprole, oritavancin, dalbavancin, and delafloxacin. Susceptibility testing for these agents is not yet widely implemented, largely due to limited availability of standardized and validated methods. The testing system is classified as LDT (Laboratory developed test) and intended to support reference testing and national surveillance activities.

Ceftobiprole is a fifth-generation cephalosporin with activity against MRSA through high-affinity binding to PBP2a. Resistance remains rare worldwide, with susceptibility rates generally above 96–99%, making it a valuable option for invasive *Staphylococcus aureus* infections.

Oritavancin is a long-acting lipoglycopeptide with multiple mechanisms of action, including cell wall inhibition and membrane disruption. Resistance is exceptionally rare worldwide (>99.8% susceptibility), including activity against some VRE.

Dalbavancin is a long-acting lipoglycopeptide with excellent activity against *Staphylococcus* spp., including MRSA, with near 100% susceptibility in surveillance studies. Resistance is extremely rare but may emerge via cell wall regulatory mutations.

Delafloxacin is a novel fluoroquinolone with enhanced activity in acidic environments and retained activity against some quinolone-resistant strains. Resistance rates in *S. aureus* remain generally low but vary geographically.

This communication aims to inform diagnostic microbiology laboratories about the implementation of an updated antimicrobial susceptibility testing panel at NARA. Laboratories should continue to submit all isolates falling within the established referral criteria to NARA for characterization and surveillance purposes. NARA remains at your disposal for any questions regarding isolate referral and susceptibility testing.

We also would like to take this opportunity to inform you that Dr Damien Jacot will succeed Dr Dominique Blanc as head of the NARA Gram-Positive Laboratory. Indeed, Dr Blanc will retire at the end of August this year, following many years of dedicated service and valuable contributions to the laboratory.

Kind regards,

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