

# MICRONAUT-S MRSA/IFSG GP 4

## Microtitration plates for the automated or manual susceptibility testing of multi-resistant Staphylococci, Enterococci and Pneumococci

### Principle, shelf-life and storage

The susceptibility testing is based on the rehydration of antibiotics by adding a standardized bacteria suspension (Mueller-Hinton II broth). The result is measured photometrically after 18-24 hours incubation at 35-37 °C. Results are going to be measured and interpreted either with the MICRONAUT software or visually. Due to a special vacuum drying method the plates can be stored at a room temperature of 15-25 °C. The MICRONAUT test plates have a shelf life of 24 months at date of production.

### Antibiotics configuration

The antibiotics configuration of the MICRONAUT-S MRSA/IFSG GP4 plate allows the specific detection of the clinically relevant single or multi-resistances of gram-positive bacteria of nosocomial infection. The susceptibility testing with highly effective reserve antibiotics offers alternatives in case of extreme multi-resistance. The choice of the antibiotics allows the detection of all resistance-phenotypes of staphylococci, enterococci and pneumococci notifiable according to German law (protection against infection act, valid as of Jan 1, 2001)

### Procedure

- ▼ Produce bacteria suspension in NaCl (McFarland 0.5)
- ▼ Transfer in Mueller-Hinton II broth
- ▼ Inoculate MICRONAUT-S MRSA/ IFSG gram-positive test plate
- ▼ Incubate for 18-24 hours at 35-37 °C
- ▼ Measure photometrically and interpret with MICRONAUT software

### Susceptibility testing of Staphylococci

- ▼ Penicillin G MIC: detection of staphylococcal penicillinases
- ▼ Oxacillin MIC: detection of oxacillin resistance
- ▼ Detection of Oxacillin borderline resistance by detection of Cefoxitin susceptibility
- ▼ Detection of phenotypical resistance patterns of epidemic MRSA (PEN/OXA/CIP/ERY/DOX/SXT/RAM/FUS).
- ▼ Detection of the induced MLS<sub>B</sub> resistance by Erythromycin/Clindamycin combination test referring to CLSI
- ▼ Test of highly effective antibiotics as alternative for present distinct multi-resistance

## Susceptibility testing of enterococci

- ▼ Ampicillin MIC: detection of ampicillin resistance
- ▼ Detection of the phenotypical glycopeptide resistance pattern of Vancomycin resistant enterococci by determination of the MIC via Teicoplanin and Vancomycin
- ▼ Differentiation between *Enterococcus faecium* and *Enterococcus faecalis* by determination of the MIC via Synercid®
- ▼ Detection of HLAR strains through high-level-resistance testing via Gentamicin and Streptomycin
- ▼ Test of highly effective antibiotics as alternative for present distinct multi-resistance

## Susceptibility testing of pneumococci

- ▼ Penicillin G MIC: detection of PBP changes
- ▼ Detection of Cefotaxime resistance
- ▼ Detection of Erythromycin resistance
- ▼ Detection of Vancomycin resistance
- ▼ Moxifloxacin MIC: detection of group IV quinolones resistance
- ▼ Test of highly effective antibiotics as alternative for present distinct multi-resistance

## The MICRONAUT-S MRSA/IFSG GP 4 plate is coated with these antibiotics

Abbreviations	Antibiotics	Abbr.	Antibiotics
<b>AMP</b>	Ampicillin	<b>LIZ</b>	Linezolid
<b>CLI</b>	Clindamycin	<b>MOX</b>	Moxifloxacin
<b>CTX</b>	Cefotaxime	<b>MUP</b>	Mupirocin
<b>COX</b>	Cefoxitin	<b>MPN</b>	Mupirocin nasal
<b>CIP</b>	Ciprofloxacin	<b>OXA</b>	Oxacillin
<b>SXT</b>	Cotrimoxazol (Sulf./Trim.)	<b>PEN</b>	Penicillin G
<b>DPT</b>	Daptomycin	<b>RAM</b>	Rifampicin
<b>DOX</b>	Doxycycline	<b>SNH</b>	Streptomycin high level
<b>ERY</b>	Erythromycin	<b>SYN</b>	Synercid
<b>ERC</b>	Erythromycin/Clindamycin	<b>TPL</b>	Teicoplanin
<b>FOS</b>	Fosfomycin	<b>TGC</b>	Tigecycline
<b>FUS</b>	Fusidin acid	<b>VAN</b>	Vancomycin
<b>GEN</b>	Gentamicin		
<b>GNH</b>	Gentamicin high level	<b>GC</b>	Growth Control