BioConnections

Helping solve microbiological problems

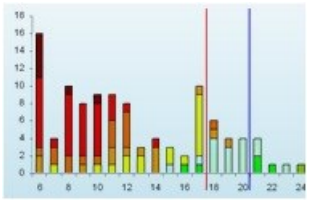
Resistant Gram negatives - Phenotypic determination

On a single plate this product identifies phenotypically KPC, MBL , OXA-48, ESBL and AmpC

The plate also gives an MIC value for Cefepime, Cefotaxime, Ceftazidime and Meropenem

MICRONAUT-S β-Lactamase

Based on broth microdilution this products not only identifies resistance mechanisms but provides valuable MIC information.



> EUCAST screening cut-off values for carbapenemase producing Enterobacteriaceae

> Phenotypical detection of MBL by meropenem synergy with EDTA

> Phenotypical detection of KPC by meropenem synergy with APBA

> Detection of OXA-48 like organisms based on Ertapenem MIC determination

> Phenotypical detection of ESBL by synergy testing with 3 cephalosporins and clavulanate

> Phenotypical detection of AmpC by synergy testing with 3 cephalosporins and APBA

Reading and Interpretation can be done manually, or with the aid of a photometer.

Software that incorporates expert rules and can be linked to LIMS systems.

All EUCAST guidelines are followed

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Antibiotics & Concentrations (µg/ml)

Cefepime	128	64	32	16	8	4	2	1
Cefepime/Clavulanate	32/4	16/4	8/4	4/4	2/4	1/4	0.5/4	0.25/4
Ceftazadime	128	64	32	16	8	4	2	1
Ceftazadime/Clavulanate	32/4	16/4	8/4	4/4	2/4	1/4	0.5/4	0.25/4
Ceftazadime + 3-APB	32	16	8	4	2	1	0.5	0.25
Cefotaxime	128	64	32	16	8	4	2	1
Cefotaxime/Clavulanate	32/4	16/4	8/4	4/4	2/4	1/4	0.5/4	0.25/4
Cefotaxime + 3-APB	32	16	8	4	2	1	0.5	0.25
Meropenem	128	64	32	16	8	4	2	1
Meropenem (screen)	0.25	0.125						
Meropenem + EDTA	32	16	8	4	2	1	0.5	0.25
Meropenem + 3-APB	32	16	8	4	2	1	0.5	0.25
Cefoxitin	32	8	4					
Ertapenem	1	0.5	0.125					
Temocillin	128	32						

Procedure

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

Shelf-life and storage

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.

International ISO Standard Method

Merlin Micronaut is a broth microdilution system using the international reference methodology (ISO 20776-1). MIC levels are based on EUCAST guidelines where they are available.

Interpretation, Automation and Malditof

Micronaut microdilution products are enhanced by software with EUCAST levels and expert rules. Automation is available from entry level to full robotics. Barcoding provides traceability. Integration with Bruker Malditof is an option.