Daptomycin MIC determinations on MRSA isolated from patients by a gradient method of testing (Etest)

References
**Sending samples for analysis**

Send cultures of MRSA from endocarditis patients on agar slopes or transport swabs, together with relevant clinical details. Please package the specimens following current postal regulations and clearly label with the address on the reverse of this leaflet.

Inform the laboratory that an organism has been sent for testing.

**Reference MIC BPs used to interpret susceptibility**

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**Daptomycin MIC determination**

Daptomycin activity in vitro is markedly affected by the concentration of calcium ions and there are unresolved questions about how daptomycin susceptibility should be tested in routine clinical laboratories. Disc diffusion tests are unreliable and EUCAST recommends that the MIC must be determined to allow susceptibility categorization.²

Etest (AB Biodisk) is a gradient test that is a practical alternative to conventional agar MIC methods. For daptomycin testing the Etest strip is provided overlaid with a constant level of calcium and the testing medium will be Mueller Hinton agar that has a consistent inherent level of calcium (25-35 μg/mL).

**Clinical use of daptomycin**

Daptomycin is a new cyclic lipopeptide antibiotic with rapid bactericidal activity against Staphylococcus aureus including MRSA, and has recently been shown to be effective in the treatment of MRSA bacteraemia and endocarditis. Despite this information, the precise role of daptomycin in the treatment of MRSA bacteraemia and endocarditis remains unclear.

A contributing factor may be the lack of availability of a standardised method for disc susceptibility testing for daptomycin.

Microbiologists require a method of daptomycin susceptibility testing in which they can be confident of predicting the clinical outcome when treating serious infections.