3M™ BacLite™ Rapid MRSA Test

MRSA results in hours, not days
Methicillin-resistant *Staphylococcus aureus* (MRSA) is a leading cause of healthcare associated infections worldwide. The need for rapid patient screening for MRSA as a component of infection control measures to potentially improve outcomes in the colonised patient and prevent transmission to other patients has been clearly established.1

- More than 53 million people worldwide carry MRSA2
- MRSA-related hospital stays average 12 additional days3
- MRSA-related infections cost an additional $27,000 - $34,000 to treat4,5
- Rapid screening may save up to 90% of isolation-associated costs5

New DNA-based tests, while fast, have proven cost-prohibitive for widespread use. Traditional methods rely on time-consuming culture techniques which require 48 hours to exclude MRSA and days to confirm positives. During this time, infection control measures, such as isolation and antibiotics, may be applied unnecessarily.

3M™ BacLite™ Rapid MRSA Test allows fast, affordable screening of patients for MRSA — in hours, not days — providing hospitals and clinicians with a valuable tool to help positively impact infection control practices. The rapid result allows more effective use of hospital isolation resources while helping reduce cross-contamination, ultimately reducing the time and costs associated with MRSA.
The 3M™ BacLite™ MRSA Test accurately identifies MRSA – in hours, not days

- Qualitative negative result in five hours
- Proprietary AK Rapid® technology delivers reliable results
- Diagnostic sensitivity of 94.6% for MRSA nasal detection *
- Diagnostic specificity of 96.9% for MRSA nasal detection *
- Negative predictive value of 99.9% for MRSA nasal detection *

Infection prevention has taken a step forward with the application of adenylate kinase (AK) Rapid technology for medical diagnostics. Through a simple test using familiar methodology, 3M BacLite Rapid MRSA test is a qualitative assay for the detection of MRSA from nasal and groin swabs. The BacLite Rapid MRSA test gives hospitals a tool to easily and affordably determine which patients are most at risk due to MRSA colonisation, allowing hospitals to streamline laboratory workflow, reduce costs associated with unnecessary isolations and improve management of microbial infections – potentially improving patient outcomes and mitigating risk of cross-contamination.

45 minutes total hands-on time for 43 direct from patient specimens
1. Screening swabs are collected from patients using standard hospital procedures
2. Dispense pre-warmed & supplemented broth into Bijou, add swab and vortex
3. Prepare processor and reader
4. Dispense capture reagent and sample into microtitre plate and wash in the processor
5. Add controls and read

3M BacLite Rapid MRSA Test kit components
- Reagent Pack
- Supplement Pack
- Broth Pack
- Microtitre Plates

Conventional broth based microbiology techniques with AK bioluminescence end point detection

Selective Enrichment → Extraction & Growth → Selective Lysis → Read

*Refer to BacLite Rapid MRSA test package insert for detailed product information.
A powerful new tool in the prevention and control of healthcare associated infections.

Designed to provide hospital staff with rapid, reliable diagnostic information, the 3M BacLite Rapid MRSA Test is a highly sensitive test that delivers a negative predictive value of 99.9% for MRSA nasal detection in just 5 hours.*

The 3M BacLite Rapid MRSA Test utilises highly sensitive AK technology:
• Unique test measures adenylate kinase activity
• Highly affordable compared to the costs associated with molecular methods
• Easy to use with minimal training required

Adenylate kinase, an essential housekeeping enzyme found in all cells, is used as an ultra sensitive cell marker. AK regulates energy provision by catalysing the equilibrium reaction: ATP + AMP $\leftrightarrow$ 2ADP. By supplying purified ADP in vitro, the amplified levels of ATP produced can be measured using bioluminescence.

This amplification means that AK Rapid technology is up to 100 times more sensitive than traditional ATP based systems. In addition, because AK levels within cells fluctuate less than ATP levels do, correlation of the AK assay with cell numbers is more accurate than that given by direct ATP-based measurements.

This approach retains the benefits of traditional culture-based methodologies, including ease of use, but provides a result more sensitive than traditional optical techniques in just 5 hours and without the high cost associated with DNA-based methods. This allows hospitals to affordably implement screening to help optimize patient outcomes and mitigate the risks associated with cross-contamination.

*Refer to BacLite Rapid MRSA test package insert for detailed product information.
3M™ BacLite™ Rapid MRSA Test

Fast Turnaround
- Confirmed negative in just 5 hours; confirmed positive next day
- Easy to implement as part of pre-admittance

Easy to use
- Swab used for specimen collections
- Minimal training required to run test
- Automatic interpretation of results

Highly Sensitive AK Rapid Technology
- Detects only viable organisms
- Bioluminescence combined with stable adenylate kinase for fast, accurate results

### Nasal Swabs - Diagnostic Sensitivity and Specificity*

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### Groin Swabs - Diagnostic Sensitivity and Specificity*

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* Refer to the 3M BacLite Rapid MRSA test package insert for detailed product information.
Order Code    Product                      Description
GH620500310  3M™ BacLite™ Flex System  Reader, Processor, PC, Monitor, Printer, Bar Code Scanner and Accessories
DH999995672  3M™ BacLite™ MRSA Sample Swabs Box of 125 Swabs
GH620500328  3M™ BacLite™ Rapid MRSA+ Pack 1: Test Reagents 1 Set of Test Reagents
GH620500336  3M™ BacLite™ Rapid MRSA+ Pack 2: Broth Supplements 10 Sets of Broth Supplements
GH620500344  3M™ BacLite™ Rapid MRSA+ Pack 3: Broth 10 Bottles of Broth
GH620500351  3M™ BacLite™ Rapid MRSA+ Pack 4: Microtitre Plates and Seals 10 Microtitre Plates and Seals

References:
1. Salgado CD, Farr BM. “What proportion of hospital patients colonized with methicillin-resistant Staphylococcus aureus are identified by clinical microbiological cultures.” Infect Control Hosp Epidemiol. 2006;27:116–21

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