

## **Kit for rapid detection of MRSA** **(Patent Awarded: 366552)**

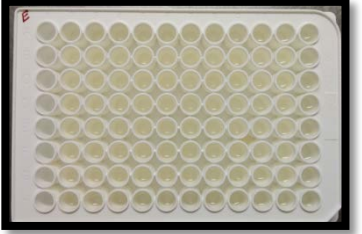
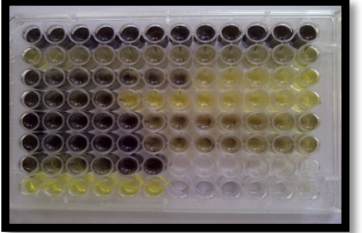
**Preamble:** Methicillin-resistant *Staphylococcus aureus* (MRSA) is an extremely virulent antibiotic-resistant form of pus forming bacteria which has been rapidly spreading worldwide. Laboratory diagnosis and susceptibility testing are crucial steps in treating, controlling, and preventing MRSA infections. MRSA can be detected by phenotypic methods like Disk diffusion, Agar dilution, E test, Oxacillin Screen agar and genotypically by PCR for *mecA* as recommended by Clinical Laboratory Standard Institution. The detection of MRSA by phenotypic assays requires at least 24 h to perform. Detection of the *mecA* gene or of PBP 2a is the “gold standard”, but not always available. In number of clinical microbiology laboratories performing routine work for the detection of MRSA are based on phenotypic assay such as disk diffusion and broth micro dilution which requires longer turnaround time of about 18–48 hours with low sensitivity and 100% specificity. Methods used to detect MRSA in clinical samples should have high sensitivity and specificity and, most importantly, the result should be available within a short time. Early diagnosis of infection with multi-drug resistance of *S. aureus* is important for individual case management as well as for control of spread of MRSA in hospital and nonhospital areas.

**Product developed:** Accordingly present invention relates to affordable and reliable colorimetric method and a kit for rapid detection of oxacillin resistance in *S. aureus* isolates that can be routinely used in facility constrained laboratories without access to commercial methodology. We have developed a kit that can detect MRSA in just 7 hours as compared to 24 to 48 hours required by conventional methods. Technically the test is easy to perform with very rapid results. This method shortens the time required for susceptibility reporting by 17 h as compared to the standard method.

### **Salient features:**

- **Detects MRSA**
- **Results are rapid in 7 hours**
- **Easy to perform**
- **Results can be visually detected**
- **No sophisticated equipments requires**
- **Can be performed in facility constrained lab**
- **Cost effective**

## Methodology:

<b>Add pure culture of <i>Staphylococcus aureus</i> to the pre prepared kit plate</b>	
<b>Incubate at 37° C for 6 hours</b>	
<b>Add the reagent supplied with the kit</b>	
<b>Incubate for 1 hour</b>	
<b>See colour change from yellow to purple indicating presence of growth</b>	

**Result interpretation: If growth is detected at oxacillin concentration of more than 4ug/ml, then it is considered as MRSA as per CLSI guidelines.**

## Inventors:

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