Aerobiology Laboratory Associates, Incorporated
Consulting Laboratory

Website: www.aerobiology.net

AIR, Test Code 1121-MRSA Culture & Total Bacterial Culture w/ ID

Methicillin-resistant *Staphylococcus aureus* is a multi drug resistant bacterium that is normally associated with hospitals and healthcare facilities. Now it can be found in classrooms, locker rooms and athletic facilities like wrestling rooms. The MRSA found in hospitals is referred as HA-MRSA or hospital associated MRSA. People who haven't been to a hospital or healthcare facility in two years and contract MRSA have a strain called CA-MRSA, community associated MRSA. The reason why this bacterium is so devastating is once it enters the body thru a cut it can move from organ to organ with ease. Staph. aureus is spread thru bodily fluids and skin to skin contact. The bacterium likes to grow on surfaces and fabrics like gowns and curtains.

MRSA can be cultured from the air in areas where groups of people congregate like a classroom or locker room. This is a three-plate protocol consisting of Blood agar, MacConkey Agar, and Mannitol Salt Agar. The Mannitol Salt Agar is selective for Staph. aureus.

1. Calibrate each sampling pump by following manufacturer's recommendations.

2. Before each run, carefully and thoroughly wipe each sampler stage with rubbing alcohol. Allow to dry. Make sure air passages are not blocked.

3. Load sampling media into sampler, remove covers from media, and attach sampler to pump with flexible tubing or if using a SAS sampler just screw the top back onto the sampler.

NOTE: Take special care to prevent contamination of media during loading and unloading. Do not touch agar surface.

4. **Sample at known preset flow for an accurately known time, e.g., 5 min.** (In heavily contaminated areas, a shorter sampling time may be necessary.)

5. Replace covers on sampling media, unload, and pack securely for shipment (plates should be media side up).

6. If plates are going to be shipped back to the laboratory send them for overnight delivery in a cooler with an ice pack. If plates are not shipped that day keep the plates in the refrigerator until they are shipped the next day.

References:

Dillon, H. Kenneth, L. Hung, J. Miller, Field Guide for the Determination of Biological Contaminants in Environmental Samples., 6.2.4.1, 134-135 (2005).

Macher, Janet, Sc.D., M.P.H., Bioaerosols , 8.2.3.1, 18.2.1, (1999).

NIOSH Manual of Analytical Methods (NMAM), Fourth Edition Method 0800 January 15, 1998

http://www.cdc.gov/niosh/topics/mrsa/, Centers for Disease Control, (2007).