MicroFast® Staphylococcus aureus Count Plate

MF1005

AOAC Validated (Certificate No.122102)

Introduction

MicroFast Staphylococcus aureus (SA) Count Plate is a sample-ready-culture medium system. It uses innovative technologies such as rapid diffusion systems and new-generation microbial coloration to achieve rapid proliferation and interpretation of colonies, greatly improving the detection efficiency in the laboratory.

The plate contains prefabricated type of medium, cold-water gel and indicator. It is intended for the enumeration of Staphylococcus aureus for food, food material and production environment.

Certified to International Organization for Standardization (ISO) 9001 for design and manufacturing.

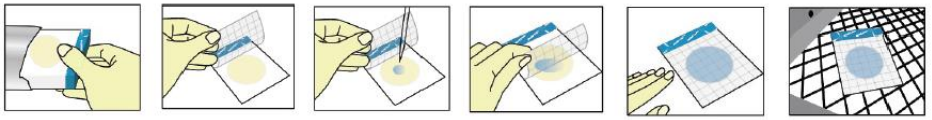
Sample Preparation

1. Sample Preparation for Qualitative Test
   a) Aseptically take 25mL(g) of sample and put into sterile homogeneous cup or bag, add 225 mL 7.5% sodium chloride broth.
2. Sample Preparation for Quantitative Test
   a) Homogenize the appropriate amount of sample with buffer solution (sterile phosphate buffer or saline solution can be used) according to stand requirements. Make 10-fold serial dilutions of the sample homogenate.
   b) Liquid samples can be used directly for inoculation.
   c) For stainless steel surfaces, pre-moistened sampling sponge with 10mL sterile buffer. Sample each 100 cm^2 test area by using firm and even pressure 10 times diagonally, vertically, and horizontally. After sampling, add 90mL volume of buffer and homogenize. Make 10-fold serial dilutions of the sample homogenate.
   d) Choose 2 or 3 diluted sample solutions with suitable concentration for inoculation (15-150 CFU/plate).

For optimal growth and recovery of microorganisms, the pH of the sample suspension should be adjusted to pH 6.5 – 7.5.
For acidic products, adjust the pH with 1N NaOH. For alkaline products, adjust the pH with 1N HCl.

Operation Procedure

1. Operation Procedure for Qualitative test
   a) Open the aluminum foil bag and place the MicroFast Plate on a flat, level surface.
   b) Lift the top film whilst supporting the plate without touching the test area.
   c) Use a sterilized 10uL inoculation loop to dip bacterial enhancement solution (from step 2), and streak the inoculum in the microbial culture area.
   d) Pipette 1mL of sterile saline or sterile phosphate buffer or sterile water and drop onto the center of the plate vertically in order to make wet the count plate.
   e) Allow MicroFast plates to set for 30 minutes after wetting before moving the plate to the incubator.
2. Operation Procedure for Quantitative Test
   a) Open the aluminum foil bag and place the MicroFast Plate on a flat, level surface.
   b) Lift the top film whilst supporting the plate without touching the test area.
   c) With the pipette vertical to the inoculation surface, dispense 1mL of sample suspension onto the center of bottom film.
   d) Drop the top film slowly onto the sample and the solution will spread automatically. Leave for at least one minute to allow the solution to spread completely before moving the plate to the incubator.

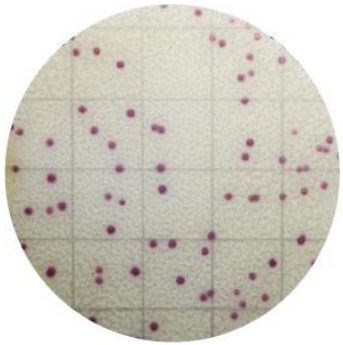


Incubation

Incubate MicroFast plates in a horizontal position with the film upwards in stacks of no more than 20. Culture at 36±1˚C for 24±2h.

Interpretation

1. MicroFast plates can be counted visually using a standard colony counter or other illuminated magnifier. Staphylococcus aureus appears pink, and non- Staphylococcus aureus appears blue, yellow, or white colonies.
2. The approximate size of the circular growth area is 20cm^2. Estimates can be made on MicroFast Plates containing between 15-150 colonies by counting the number of colonies in the circular growth area.
3. Alternatively, estimates can be made on MicroFast plates containing greater than 150 colonies by counting the number of colonies in two or more representative squares and determine the average number per square. Multiply the average number by 20 to determine the estimated count per plate.
4. High numbers of colonies on the MicroFast plates will cause the entire growth area to appear discolored. Record this result as too numerous to count (TNTC).
   Where a count is required, evaluate the performance of the next dilution. If there are obvious colonies in the next dilution and within the optimal counting range, they should be counted and recorded. If there is no colony count, the count plate might have either been contaminated or sample matrix has negatively influenced microbial growth on the count plate.
5. If further confirmation needs to be made, stick the confirmation plate and continue to incubate for 1.5 – 4h. Single purple colony can be determined as Staphylococcus aureus. Please find the instruction for Staphylococcus aureus confirmation plate for details (such as the U.S. FDA or ISO reference methods).



Staphylococcus aureus morphology

Storage

1. The shelf life of count plate is 18 months. Use up within the shelf life. Lot number can be found on the pouch.
2. The count plates components are sterilized. Unopened count plates should be stored at 2˚C-8˚C. Equilibrate the count plate to room temperature before use.
3. After unsealing, stick the pouch with adhesive tape or seal it with a sealing clip, store it in the dark at room or ambient temperature 15˚C-25˚C, and use it up within one month.
4. When transporting or short-term storage, store the count plate at room temperature.

Scope of AOAC Validation

1. Unpasteurized (raw0 whole liquid milk, cream puff, frozen fish, sliced deli ham (ready-to-eat), fresh pasta salad 9with vegetables) and stainless-steel environmental surface sponges were certified in the AOAC Research Institute Performance Tested Methods study.
2. MicroFast SA demonstrated equivalent performance to the U.S. Food and Drug Administration Bacteriological Analytical manual (FDA/BAM) Chapter 12: S. aureus Plate Count reference methods.

WARNINGS & PRECAUTIONS

- The user should read, understand, and follow all safety information in the instructions before use.
- The MicroFast Count Plate should be disposed following procedures for infectious or potentially infectious products. User should wear appropriate personal protective equipment, including, but not limited to, protective disposable gloves, laboratory coats, and eye protection when handling samples and kit reagents, Wash hands thoroughly after handling specimens and reagents. It is the responsibility of each laboratory to handle waste and effluents produced according to their type and degree of hazardousness and to treat and dispose of them (or have them treated and disposed) in accordance with local, state, and federal regulations. Strict compliance with BSL-2 practices should be followed.
- Follow all product storage guidelines included in the insert. Do not use after the expiration date.
- MicroFast Count Plate testing should be done in a professionally equipped laboratory under the supervision of a skilled microbiologist. The user must train its staff on the current testing methods.
- MicroFast Count Plates have not been reported for application in industries other than food and environmental samples. Use within the suggested scope.
- Counting results of MicroFast Count Plates may not be the same as agar.
- MicroFast Count Plate have not been evaluated with all possible food products, food processes, testing protocols or with all possible microorganism strains.
- As a general precaution, clean the workstations with the disinfectant of choice (e.g., sodium hypochlorite solution, phenol solution, quaternary ammonium solution) before and after, in addition to having work areas separated for the following: media preparation, sample preparation, and indicator organism enumeration. Gloves and other personal protective equipment should always be used.
- Count plate may contain microorganisms that may be a potential biohazard. Follow current industry standards for disposal.
- Keep the count plate away from ultraviolet, direct sunlight and fluorescent lamp.
- Do not use the polluted or damped count plate.
- If the pH of the test sample is too high or too low, it will affect the accuracy of the test results.
- When uncovering the film, do not touch the culture area of the medium.
- If there are too many colonies, the detection of positive strains might be affected.
- The count plate may show a few needle-like black spots, which is normal and does not affect the interpretation of the target strain.
- If the sample is viscous, diffusion can be aided manually.
- When pipetting samples, do not touch culture area.

Limitation of Warranties

Accurate results depend on the proper use of the kit by following the instructions for use carefully. If the kit fails to perform according to specification, please contact your sales representative at Scigiene.

Limitation of Scigiene Liability

Scigiene will not be liable for any loss or damages, whether direct, indirect, special, incidental or consequential damages, including but not limited to lost profits. In no event shall Scigiene's liability under any legal theory exceed the purchase price of the product alleged to be defective.

User Responsibility

Users are responsible for becoming acquainted with product instructions and information. For further information, please contact your local Scigiene dealer or distributor.
When choosing a test method, please note that external factors such as sampling methods, testing protocols, sample preparation, handling, and laboratory technique can all have an impact on the results.

When selecting a test method or product, it is the user's duty to assess a sufficient number of samples with the proper matrices and microbiological challenges to ensure that the chosen test methos meets the user's criteria. It is also the user's obligation to ensure that any test methods and results fulfill the criteria of its customers/suppliers.
Results acquired from the use of any Scigiene product, like any other method, cannot guarantee the quality of the tested matrices or processes.

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