Aerobic Count Plate (Gel-type) User Manual

1. Introduction

The FSTest *Aerobic* Count Plate (Gel-type) is a ready-to-use disposable culture medium for rapid enumeration of aerobic bacteria. It contains a standard nutrient medium, a cold water–soluble absorbent gel, and a dehydrogenase indicator, triphenyl tetrazolium chloride (TTC). During incubation, bacteria metabolize and reduce TTC to form red colonies, making them clearly visible for easy counting. This color reaction shortens incubation time and improves counting accuracy.

2. Application

Intended to detect various foods, food raw materials, and water samples.

3. Limit of detection

1-10CFU/mL (g)

4. Kit composition

Count Plate × 25

User manual.

The reagents and appliances may be required but not provided: sterile water, sterile saline or phosphate buffer solution, 1-1000uL pipette and tips, incubator, sterile sampling can or homogenization bag, homogenizer, refrigerator, scale, vortexer, sterile glass test-tube, test-tube rack, etc.

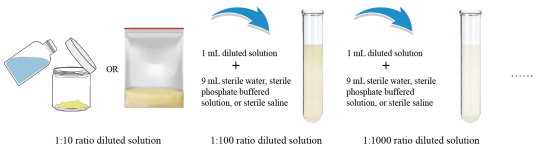
5. Specifications

25 tests

6. Sample treatment

6.1 Weigh 25 g (or mL) of the sample and place it into a sampling container or homogenization bag containing 225 mL of sterile water, sterile saline or phosphate buffer solution. After homogenization, a 1:10 sample homogenate is obtained.

6.2 Mix 1mL of sample solution and with 9mL of sterile water, sterile saline or phosphate buffer solution to reach the final ration 1:100. A serial of dilutions can be obtained by following the same steps. Make sure to change a pipette each time. When required, testing can be carried out directly with the original (undiluted) sample.



7. Procedure & steps

7.1. Inoculation

The appropriate dilution for test can be selected according to the actual needs. Select 2-3 appropriate dilution ratio to do the following test.

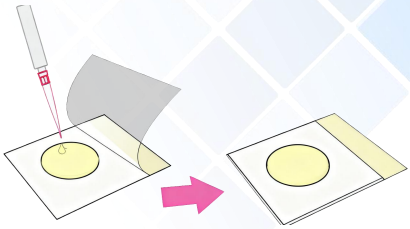
Open the package, place the FSTest *Aerobic* count plates (gel-type) onto a sterile laboratory bench, clean bench, or biosafety cabinet, uncover the film on the top.

Add 1mL of sample solution onto the center of the circular inoculation area, then recover the film carefully avoiding bubble formation.

Gently use a plate spreader to evenly spread the sample solution over the circular inoculation area.

Then set for at least 10s to allow the culture medium solidifies.

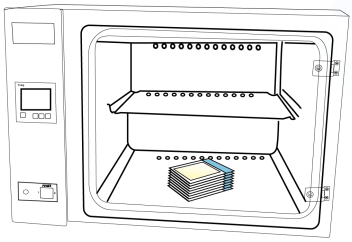
Inoculate duplicate count plates for each dilution ratio and one blank control needs to be included meanwhile.



7.2. Culture

Stack the plates with the front sides facing upward, place them horizontally in the incubator, and ensure that no more than 20 plates are stacked at a time.

The incubation conditions are as follows: for general food, 36±1 ℃ for 24h±1h; for seafood, 30±1℃ for 48h± 2h.



8. Results determination

After incubation, bacterial colonies will appear as red spots on the plate. Select plates containing a moderate number of colonies (30-300 CFU) for enumeration. Multiply the counted colonies by the appropriate dilution factor to calculate the count per milliliter (for liquids) or per gram (for solids) of the sample.

If only one dilution level has a colony count within the appropriate range (30–300 CFU), calculate the average colony count from the two count plates at that dilution, then multiply the average by the corresponding dilution factor to determine the *Aerobic* count per milliliter (or gram) of the sample.

If all dilution levels have colony counts exceeding 300 CFU, count the colonies on the highest dilution count plate, record other plates as "too numerous to count," and calculate the result by multiplying the average colony count by the highest dilution factor.

If all dilution levels have colony counts below 30 CFU, use the lowest dilution's average colony count multiplied by its dilution factor for calculation.

If no colonies are observed at any dilution, report the result as “less than 1” multiplied by the lowest dilution factor.

If none of the dilution levels have an average colony count within the 30–300 CFU range, but some are below 30 CFU or above 300 CFU, use the average colony count closest to either 30 CFU or 300 CFU and multiply by the corresponding dilution factor for calculation.

If colonies are observed on the blank control, the results of this test shall be deemed invalid.

9. Attention

9.1. When removing the plate from the incubator, do not press on the central circular inoculation area.

9.2. Do not expose the plates to direct sunlight or ultraviolet light, and avoid prolonged exposure under fluorescent lighting.

9.3. If the number of colonies is too high to count directly, select several representative small squares, calculate the average number of colonies per square, and multiply by 28 to estimate the total colony count on the entire plate.

9.4. The pH of the sample homogenate should preferably be between 6.5 and 7.5. If necessary, adjust the pH using 1mol/L NaOH or 1mol/L HCl solution.

10. Waste disposal

Please dispose of the FSTest *Aerobic* count plate (gel-type) after using according to the principle of biosafety waste in a timely manner.

11. Storage conditions

The count plate can be stored and transported at room temperature within 15 days, and then kept in the refrigerator at 2-10℃ for 18 months. Once the package is opened, the unused count plate shall be put back into the aluminum foil bag with sealed at 2-10℃ and used up within one month.

Our company also produces a colony counter designed for use with the count plates. For purchasing or technical inquiries, please contact us.

Dayuan & Oasis FoodTech Ltd.

3rd F, Building A2, No.11, Kaiyuan Avenue, Guangzhou, China 510530

www.fstestcorp.com

service@fstestcorp.com

Visit our website