

CountEasy Rapid Aerobic Count Plate (RAC)

Order Code: YRBQT0002-001W

Introduction

The CountEasy Microbial Test plate series is a food safety rapid detection product launched by Bioeasy. This series utilizes cold gel technology, designed to be simple, easy to operate, and easy to interpret, making it widely applicable to various stages of food production, processing, and quality control. It helps users obtain reliable test results quickly, improving testing efficiency while reducing labor and equipment costs.

The aerobic count refers to the total number of microbial colonies formed in each gram (mL) of the sample after it has been processed and cultivated under specific conditions (such as culture medium, incubation temperature, and incubation time). The colonies appear red on the CountEasy plate, and colony growth and counting can be completed for most food matrices within 24 ± 2 hours.

Application

This product is suitable for testing total number of microbial colonies in various foods.

Storage and Shelf Life

Storage: Store at 2-8°C.

Shelf Life: 18 months.

Product Components (25 Pieces/Bag)

25 CountEasy plates

Materials required but not provided

1. Sample Spreader (order code from Bioeasy: 06.04.0089)
2. Incubator
3. Homogenizer or blender
4. Sampling bag (Recommended for homogenizer, bag with filter to eliminate food debris)
5. Pipette or Pipettor and pipette tips
6. Diluent: Peptone Salt Solution/Buffered Peptone Water/Double-strength Buffered Peptone

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Water or others specific diluents

Sample Preparation

1. Choose the diluent that matches the test sample: See ISO 6887-1:2017 General prep and diluent (ISO 6887-2 to ISO 6887-5: For specific product categories such as meat, fish, dairy, and others), ISO 8261 or the specific International Standard dealing with the product under examination. Aseptically prepare a 1:10 dilution of each test portion. Weigh a 10 g (mL) test portion into a sterile stomacher bag and dilute with 90 mL Diluent; blend or homogenize per standard.
2. Using separate sterile pipets, prepare decimal dilutions of 10^{-2} , 10^{-3} , 10^{-4} , and others as appropriate of food homogenate by transferring 10 ml of previous dilution to 90 ml of diluent.
3. Blend or homogenize sample.

Test Procedures

Plating

1. Place the CountEasy RAC Plates on a flat, level surface.
2. Lift the top film and with the pipette perpendicular dispense 1 mL of sample suspension onto the center of bottom film.
3. Roll the top film down onto the sample to prevent trapping air bubbles. Place the sample spreader in the center of the top film, and apply gentle pressure after 1-2 seconds, ensure the sample solution evenly covers the circular culture medium. Do not slide the spreader across the film.
4. Remove the spreader and leave the plate undisturbed for at least 30 seconds to permit the gel to form.
5. Stack the CountEasy plate horizontally in a constant temperature incubator, with no more than 20 CountEasy plates stacked.

Incubation

Incubate at $32 \pm 1^\circ\text{C}$ (seafood and dairy products) or $35 \pm 1^\circ\text{C}$ (all other foods) for 24 ± 2 hours.

Result Interpretation

Recommended countable range: **30-300 CFU/plate**

*Using back-lighting helps with counting. If counts fall outside these ranges, choose a more

appropriate dilution.

Once the colonies have grown on the CountEasy plate, they will appear as red colonies, which can be observed with the naked eye. If colonies grow outside the designated culture area, they shall still be included in the count in accordance with the counting rules. Record the dilution factor and the corresponding number of colonies. Select the test plate with a moderate number of colonies for counting. Multiply the colony count by the dilution factor to calculate the total number of bacterial colonies per mL (g) of the sample.

Results Calculation & Reporting

When one or two plates at one or two dilution levels are counted, use the ISO-recommended formula:

$$N = \frac{\sum C}{(n_1 + 0.1n_2)d}$$

N = Total colony count in the sample (CFU/g or CFU/mL)

$\sum C$ = Sum of the colony counts from CountEasy plates (those within the acceptable counting range)

n_1 = Number of CountEasy plates at the first suitable dilution level

n_2 = Number of CountEasy plates at the second suitable dilution level

d = Dilution factor (for the first dilution level)

Operational Precautions

1. When opening the cover film, avoid touching the circular culture medium area on the bottom film.
2. Lower the top membrane slowly to prevent sample overflow and bubble formation.
3. After adding the sample, immediately use the sample spreader to spread the sample. Use spreader for each plate.
4. The CountEasy plate should be incubated upright, and no more than 20 CountEasy plates should be stacked at once.
5. Unused CountEasy plates should be sealed after opening the bag. Roll up the opening of the

packaging and seal it with tape or use a sealing clip or put them into a sterile bag. Store them on a sterile workbench or in refrigerator and use them within one month.

6. Do not refrigerate the packaging bag that has been opened but not sealed correctly.
7. Do not expose the CountEasy plate to direct ultraviolet or sunlight and avoid long-term exposure to fluorescent lights.
8. Do not use contaminated CountEasy plate.
9. When selecting a test method, it is important to recognize that external factors such as sampling methods, testing protocols, sample preparation, handling, and laboratory technique may influence results. The food sample itself may influence results.
10. It is the user's responsibility in selecting any test method or product to evaluate a sufficient number of samples with the appropriate matrices and microbial challenges to satisfy the user that the chosen test method meets the user's criteria.
11. It is also the user's responsibility to determine that any test methods and results meet its customers' and suppliers' requirements.
12. Store as labeled; do not use expired or damaged products.
13. Not for clinical diagnostic use.

Safety Precautions

1. Used plates may contain viable organisms — treat as biohazard.
2. Wear lab coat, gloves, and eye protection; wash hands after handling.
3. Do not reopen incubated plates; avoid creating aerosols.
4. Dispose of used plates per institutional/local rules (autoclave if required).
5. Keep and follow SDS for any chemicals used.
6. Report spills and follow your lab's emergency procedures.
7. Only trained personnel should perform testing.

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