

Compact Dry “Nissui” AQ

Simple and Easy Dry Medium for Total Viable Count
For Water testing

Background

Compact Dry “Nissui” AQ is a prepared medium to determine total viable count and heterotrophic organisms in water.

It is important to detect and measure the total viable count in foodstuffs and environment to monitor the degree of cleanness as well as their sanitary safety. Pour Plate method has been widely used to determine the microbial count. The method requires much of time and complicated operations such as preparation of hot agar kept at 45 - 50°C, and mixing and dilution uniformly. To save the time of operator and make it possible for anyone to perform the microbial count test without difficulty, Nissui has successfully developed Compact Dry based on new concept and technology that may applicable for almost all food industries, which requires a simple and easy manipulation to add a drop of specimen on the device.

Features and Benefits

- 1) Small and compact plate: Need only small physical spaces for storing, testing and incubating.
- 2) Ready to use and portable plate: No needs to prepare medium, which eliminates the waste of medium as well as the apparatus to prepare the medium. Good for an emergency and a field test.
- 3) Sample diffuses automatically and evenly into the plate: No needs of mixing and dilution after sampling.
- 4) Dried plate and one and half year shelf life at room temperature: Easy to store. Once a liquid sample is dropped, the dry coated medium transforms to gel and the plate is ready to incubate.
- 5) Clear color development by redox indicator: Easy to read the results. Isolated colonies can be subcultured individually to the other media.
- 6) Good correlation with the Yeast extract Agar method.¹⁾

Operating Procedure

Preparation of specimen

Inoculate 1 ml of the sample (to be diluted if necessary) to the plate.

Direction for Compact Dry AQ

- 1) Open aluminum bag, and take out a set of 4 plates.
- 2) Detach necessary number of plate(s) from a set of four by bending up and down while pressing the lid. Use a set of four plates being connected when serial dilution measuring is intended.
- 3) Take off the cap of the plate, pipette 1 mL of sample in the middle of dry sheet, put the cap again. Specimen diffuses automatically and evenly into all over the sheet (total medium of 20 cm²) to transform it into gel within seconds.
- 4) Write the appropriate information on the memorandum section. Turn over the plate capped, put in an incubator.
One plate is incubated for 44±4 hours at 36±2°C. Another plate is incubated for 68±4 hours at 22±2°C.²⁾
- 5) From backside of the plate, count the number of colored colonies appeared in the medium. White paper placed under the plate can help to count colonies easier. When the number of colonies are great large, it is convenient to use the grids carved on the back of the container consisting of 1 cm x 1 cm, or 0.5 cm x 0.5 cm at the 4 corners.

Precaution for use

- 1) During inoculation, do not touch the surface of medium, and be careful to avoid any contamination by falling microorganism.
- 2) During incubation, keep cap tight of Compact Dry to avoid any possible dehydration.
- 3) If bacteria more than 10⁴ cfu were inoculated on a plate, no colonies are formed, and no colored colonies eventually are appeared on the plate but all plate sheets becomes seemingly colored.
- 4) If the nature of sample does affect the reaction of the medium, inoculate the sample only after the factor is eliminated by means of such as dilution and others.
For instance; samples such as high viscosity, colored, reacted with redox indicator, and too high or too low pH.

Interpretation

The medium consists of non-selective medium and redox indicator of 2,3,5-Triphenyl Tetrazolium Chloride (TTC). Colonies grown on Compact Dry AQ are almost all red colored.

Precaution for interpretation

- 1) Full medium size in the plate is 20 cm², and the back of container has a grid carved of 1cm x 1cm to make colony counting easier. In case of any difficulty to count the colonies due to great large number of colonies grown on the medium, total viable count can be obtained by multiplying 20 by an average number of colonies per a grid (1cm x 1cm) counted from several grids. By the same reasoning, when if too many colonies grew on the medium to count, total viable count can be obtain by multiplying 80 by an average number of colonies per a grid (0.5 cm x 0.5cm) that is carved in the four corners of the grids.
- 2) Since some microorganism may not reduce TTC to develop red/pink color, Compact Dry AQ may develop colonies that are not necessarily clear red color.

Warning and Direction for Use

1. General precautions

- 1) Read and follow precisely the warning and direction for use described on the package insert and/or label.
- 2) Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.
- 3) Do not use the product that contains any foreign materials, discolored or dehydrated, or its container is damaged.

- 4) After opening the aluminum bag, any plates unused should be put back into the aluminum bag to be sealed with tape to avoid light and moisture, and use up as soon as possible. Compact Dry AQ (for total viable count) is subject to light that affects the color development of colonies.
- 5) Some strains may not be detected on Compact Dry AQ while some bacterial strains may recover on other test methods. It is the use's responsibility in selecting any test method to evaluate.

2. Precautions for danger

- 1) When if medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.
- 2) Manipulations with microorganisms involve always certain risks of laboratory-acquired infections. Manipulations should be practiced under the supervision of key specialist with biohazard protection measures.
- 3) Any laboratory equipment and medium that touched with specimen should be regarded as infectious in the laboratory.

3. Precautions for disposal of waste

Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use, and then disposed as industrial waste according to the Law on Waste Disposal and Cleaning. Also follow to local laws and regulations related to dispose such material.

Reference

- 1) ISO6222 : 1999 Water quality-Enumeration of culturable micro-organisms - Colony Count by inoculation in a nutrient agar culture medium

Storage and Shelf life

Storage : Keep at room temperature (1 – 30°C)

Shelf life: Twelve (12) months after manufacturing.

Shelf life is printed on both label of outer box and aluminum bag.

Package

Compact Dry “Nissui” AQ 40 plates	Code 00000
Compact Dry “Nissui” AQ 240 plates	Code 00000

Further information

Customer Support Section

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