

MC-Media Pad™ “ACplus(R-AC)” instruction manual

Easy and accurate dry culture system for Microbial Counts

◆ BACKGROUND

For hygiene control, it is important to determine the microbial count in foodstuffs and the process environment. MC-Media Pad ACplus(R-AC) is intended to determine the total aerobic count using a special medium composition and unique redox indicator dyes for not only standard but also rapid enumeration. MC-Media Pad pre-sterilized, ready-to-use dry culture devices simplify testing and minimize the quantity of waste. MC-Media Pad is composed of a unique adhesive sheet, a test pad coated with medium and water absorption polymer, and a transparent cover film. MC-Media Pad is made by ISO 9001 certified factory.

◆ TEST PRINCIPLES

MC-Media Pad ACplus(R-AC) is coated with a growth medium and a redox indicator for detection. Once the liquid sample is inoculated onto the test pad, the sample diffuses through the whole pad by capillary action. The medium re-constitutes automatically. If target organisms are present, they grow as red colored colonies on the test pad.

◆ CONTENTS and STORAGE

- 1000 plates ... code **SK01A25** (25 plates x 40)
SK01A10 (10 plates x 100)
- 100 plates ... code **SK01B25** (25 plates x 4)
SK01B10 (10 plates x 10)

This kit should be stored between 2-15°C. When stored properly and unopened, the kit has a shelf-life of 2 years from date of manufacture. Refer to product label for expiration date.

◆ MATERIALS REQUIRED BUT NOT PROVIDED

- Incubator (30 or 35 ± 1 °C) ● Stomacher or Blender
- Sampling bag (Recommended for Stomacher; bag with filter to eliminate food debris)
- Pipette or Pipettor and pipette tips
- Maximum Recovery Diluent (MRD), Butterfield's phosphate buffer (BPB), Buffered peptone Water (BPW), 2% sodium citrate, according to EN ISO 6887. Phosphate buffered saline (PBS) or Saline are available (not included in AOAC PTM certification).

◆ SAMPLE PREPARATION

● For solid food stuffs

Homogenize a 10 or 50-g test portion in 9-fold volume of MRD, BPB, or appropriate diluents with a stomacher or blender. If necessary, make a 10-fold serial dilution. For dairy products, homogenize 11-g test portion in 99 mL of 2% sodium citrate at 40 - 45 °C. If necessary, add 11 ml of homogenate into 99mL BPB for serial dilution.

● For liquid food stuffs, water, swab test sample (Water and Swabs not included in AOAC PTM certification)

Sample can be applied directly or diluted with MRD or appropriate diluents as for solid foodstuffs. If necessary, pH of sample should be adjusted to neutral (pH 7.0 ± 0.2). For yogurt drink, homogenize 11 mL test portion in 99 mL of BPB. If necessary, add 11 ml of homogenate into 99mL BPB for serial dilution.

◆ TEST PROCEDURE

● General Operation

1. Open the aluminum bag, and remove the MC-Media Pad. If necessary, write information on the cover film.
2. Lift the cover film and drop 1.0 mL of sample solution onto test pad.
3. Replace the cover film and lightly press the edges of film to seal. (It is recommended to lift the cover film diagonally for easy and sure re-sealing.)
4. For standard usage, incubate test plate at 35 ± 1 °C for 48 ± 2 hours (according to USDA FSIS, AOAC OMA 966.23, Standard Methods for the Examination of Dairy Products).
For rapid usage, incubate test plate at 35 ± 1 °C for 24 ± 2 hours.
For alternate method, incubate test plate at 30 ± 1 °C for 72 ± 3 hours (according to ISO 4833).

In case that food stuffs which contain large amounts of lactic acid bacteria (e.g. *Lactobacillus* sp.) or psychrophilic bacteria (e.g. *Pseudomonas* sp.), rapid usage may not be applicable.

● Other Application (not included in AOAC PTM Certification)

MC-Media Pad is also available for Wiping/Stamping technique, Membrane filter method, and Airborne falling bacteria test. MC-Media Pad website provides detailed information. (<https://www.jnc-corp.co.jp/MC-MP/>)

◆ INTERPRETATION

Count all reddish colored colonies. Certain bacteria (in particular *Bacillus* species strains) may form diffuse and fuzzy round shapes. In that case, dark colored points should be counted as colonies. For large numbers of colonies, colony counts can be estimated by counting colonies in one grid square and multiplying by 20. If more than 10⁴ microbes are grown, the entire test pad may appear as stained, and it may appear that no individual colonies were formed. If this is the case, dilute the sample further and re-test. If necessary, a target colony can be picked up with a sterile needle from the test pad for further analysis.

◆ PRECAUTIONS

1. The test is designed for use by quality control personnel and others familiar with testing samples potentially contaminated with aerobic microbes.
2. Use personal protective equipment such as gloves, laboratory coat and eye protection. Treat samples and inoculated devices as potentially biohazardous.
3. Read this instruction manual carefully before use.
4. After opening the aluminum bag, unused plates should be stored in the aluminum bag sealed with tape, and kept in a cool (2-15 °C) environment. After opening, use all plates within 1 month.
5. Do not expose unused plates to sunlight or ultraviolet light.
6. Do not use a discolored or damaged plate.
7. A wrinkle on the test pad should not affect detection.
8. Small fragments of fabric on or around the test pad should not affect detection.
9. Do not use the plates after the expiration date. The quality of an expired plate is not warranted.
10. The measurement range is less than 300 cfu/plate. If more than 300 cfu/plate are counted, further dilution is recommended.
11. The rapid mode test is not suitable for all foods. Therefore, suitability should be verified using your own samples before applying.
12. The nature (high viscosity food or food dye) of food may affect test usage or results. In that case, the causes need to be eliminated by dilution or other means.
13. The used kit must be sterilized by autoclaving or boiling, and then disposed according to local regulations for waste.

◆ METHOD VALIDATION

MC-Media Pad ACplus(R-AC) is approved as alternative method for ISO 4833:2013 by MicroVal (Cer. No. 2015LR52) for all foods.

AOAC *Official Method of Analysis*SM (No. AOAC 2019.02)

AOAC *Performance Tested Method*SM study (Cer. No. 091702)

MC-Media Pad ACplus(R-AC) was shown to be equivalent to USDA FSIS MLG 3.02 for raw chicken breast and raw ground pork; to Standard Methods for the Examination of Dairy Products Chapter 6 for cream cheese and yogurt drink; to AOAC OMA 966.23 for parsley, vegetable juice, prawns, tuna pate, sandwiches, and pasta salad; and to ISO 4833:2013 for raw chicken breast, raw ground pork, cream cheese, yogurt drink, parsley, vegetable juice, prawns, tuna pate, sandwiches, and pasta salad.

◆ LIMITATION of WARRANTY

The Products are covered by the applicable JNC Corporation standard warranty. NO OTHER EXPRESS OR IMPLIED WARRANTY IS MADE WITH RESPECT TO THE PRODUCTS. JNC EXPRESSLY EXCLUDES THE IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE. If product is defective, JNC and JNC's authorized distributor will provide a replacement or refund at the purchase price.

◆ CONTACT and FURTHER INFORMATION

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