

MC-Media Pad™ “*E.coli*/Coliform” instruction manual

Easy and accurate dry culture system for Microbial Counts

◇BACKGROUND

For hygiene control, it is important to determine microbial number in foodstuffs and process environment. MC-Media Pad “*E.coli*/Coliform” is intended to determine simultaneously coliform and *Escherichia coli* number by special medium composition and specific chromogenic substrates for both β-galactosidase and β-glucuronidase. 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 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 “*E.coli*/Coliform” is coated with selective medium and chromogenic substrate for specific detection. Once the liquid sample is inoculated onto test pad, the sample diffuses to whole pad through capillary action. The medium re-constitutes automatically. If target organisms are present, coliform and *E. coli* grow as blue-green/blue and red-purple/navy colored colonies on test pad, respectively.

◇CONTENTS and STORAGE

- 1000 plates • • • • code SK97A25 (25 plates×40)
SK97A10 (10 plates×100)
- 100 plates • • • • • code SK97B25 (25 plates×4)
SK97B10 (10 plates×10)

This kit should be stored between 2-15°C. (Refrigerated)

◇MATERIALS REQUIRED BUT NOT PROVIDED

- Incubator (35 ± 1°C)
- Stomacher or Blender
- Sampling bag (Recommended for Stomacher; bag with filter to eliminate food debris)
- Pipette or Pipettor and pipette tips
- Butterfield's Phosphate Buffer, Phosphate Buffered Saline, Saline or appropriate diluents

◇SAMPLE PREPARATION

●For solid food stuffs

Homogenize a 10-g test portion in 90 mL of Butterfield's Phosphate Buffer, Phosphate Buffered Saline, Saline or appropriate diluents with a stomacher. If necessary, make a 10-fold serial dilution.

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

Sample can be applied directly or diluted with Butterfield's Phosphate Buffer or appropriate diluents as for solid foodstuffs. If necessary, pH of sample should be adjusted to neutral (pH 7.0 ± 0.2).

◇TEST PROCEDURE

●General Operation

1. Open aluminum bag, and take MC-Media Pad. If necessary, write information on the cover film.
2. Lift the cover film, and drop 1mL 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. Incubate test plate at 35 ± 1°C for 24 ± 2 hours.

●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.
(<http://www.jnc-corp.co.jp/MC-MP/>)

◇INTERPRETATION

Count all colored colonies (blue-green/blue and red-purple/navy) as

coliform regardless counted. For *E.coli* count, only red-purple/navy colored colonies should be counted. If the large number of colonies is difficult to count, colony counts can be estimated by counting colonies in one grid square and multiplying by 20. If more than 10⁴ of microbes are grown, the entirety of 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, the target colony can be picked up with sterile needle from 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 coliform and *E.coli*.
2. Read this instruction manual carefully before use.
3. After opening the aluminum bag, unused plates should be stored in the aluminum bag and sealed with tape, and kept in a cool (2-15°C) environment. After opening, use all plates within 1 month.
4. Do not expose unused plates to sunlight or ultraviolet light.
5. Do not use a discolored or damaged plate.
6. A wrinkle on test pad should not affect detection.
7. Small fragments of fabric on/ or around test pad should not affect detection.
8. Do not use the plates after the expiration date. The quality of an expired plate is not warranted.
9. The measurement range is less than 300 cfu/plate. If more than 300 cfu/plate are read, further dilution is recommended.
10. MC-Media Pad “*E.coli*/Coliform” detects coliform bacteria by existence of β-galactosidase. It is therefore that certain bacteria (genus *Aeromonas* etc.) which possesses this enzyme may grow as coliform.
11. *E. coli* serotype O157 is detected as coliform (blue-green/blue) because of lacking β-glucuronidase.
12. In case of applying β-galactosidase containing foods (e.g. cheese, lactic drink or liver), entirety of test pad may appear as stained.
13. The used kit must be sterilized by autoclaving or boiling, and then disposed according to local regulations for waste.

◇METHOD VALIDATION

AOAC Performance Tested MethodSM study (Cer. No. 070901)
MC-Media Pad “*E.coli*/Coliform” has been compared to FDA-BAM and AOAC OMA 966.24, and certified by the AOAC Research Institute Performance Tested MethodsSM Program for enumeration of total coliform counts in meat, seafood, vegetable, fruit, confectionary, dairy, pet food, pasta, and dressing, and for *E. coli* counts in meat.

◇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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Manufactured by **JNC CORPORATION**

“Sanita-kun” is reborn as “MC-Media Pad” for the future.