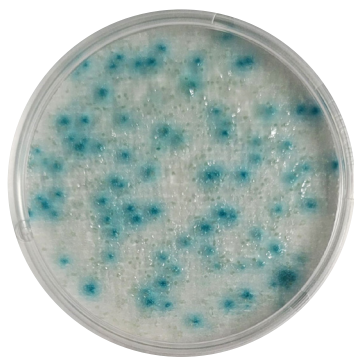




## Compact Dry™ YMR

Ready-to-Use Medium for  
**Yeast and Mold Rapid**



### Background

Yeast and mold can cause various degrees of food decomposition, and invasion and growth may occur on virtually any type of food. Commodities such as grains, legumes, nuts, and fleshy fruits can be invaded prior to harvesting as well as during storage. Yeast and mold are distributed widely in decaying plant materials, soil, and air. Their presence on unprocessed plant and animal commodities is almost assured by harvesting, handling, distribution, and storage practices used in food industries. Inadequate preservation of these commodities can result in spoilage. Detection and enumeration of yeast and mold in food is an integral part of any good quality assurance program and can reflect the effectiveness of sanitation practices, processing, and distribution conditions.

To save operator time and make it possible for anyone to perform the microbial count test without difficulty, Compact Dry was developed based on a new concept and technology applicable to the food industry. Compact Dry allows for easy addition of a sample to the device.

### Certification by AOAC

**Compact Dry YMR** has been compared to ISO 21527-1:2008 and certified by the AOAC Research Institute Performance Tested Methods<sup>SM</sup> (PTM) Program (Certificate No. 092002) for enumeration of yeasts and molds in cooked prawns, deli vegetable salad, tuna pate, fermented strawberry yogurt drink, spinach and ricotta quiche, egg custard tarts, fruit and vegetable smoothie, cream cheese, egg salad sandwiches, and deli pasta salad. Microval validation certified method in compliance with ISO 16140-2:2016 in comparison to ISO 21527-1:2008 (Certificate No. 2016LR61).

### Warnings and Precautions

#### 1. General precautions

- Read and follow precisely the warnings and directions for use described in the package insert and/or label.
- Do not use the product after its expiration date. Quality of the product is not warranted after its shelf life.
- Do not use product that contains any foreign materials, is discolored or dehydrated, or has a damaged container.
- Use plates as soon as possible after opening or within 30 days. Return any unused plates to the aluminum pouch and seal with tape to avoid light and moisture.
- Cap tightly after inoculation to avoid dehydration of gelled medium.

#### 2. Safety Precautions

- If medium or reagent comes into contact with eyes or mouth, immediately wash with water and consult a physician.
- Laboratory analysis with microorganisms involve certain risks of laboratory acquired infections. Tests should be carried out under the supervision of trained laboratory personnel with biohazard protection measures.
- Treat any laboratory equipment or medium that comes into contact with the specimen as infectious and sterilize appropriately.

#### 3. Precautions for disposal of waste

- Sterilize any medium, reagent or materials by autoclaving or boiling after use. Alternatively, product can be placed in a 10% bleach solution for 30 minutes. Dispose as industrial waste according to local laws and regulations for disposal of such material.

#### 4. User Responsibility

- It is user's responsibility in selecting any test method to evaluate a sufficient number of samples with manufactured commodities and microbial challenges to satisfy the user that the chosen test method meets the user's criteria.
- It is the user's responsibility to determine that any test methods and results meet its customers' or suppliers' requirements. The user must train its personnel in proper testing techniques.
- It is the user's responsibility to validate the performance of this method for use with any non-certified matrix.

#### 5. Limitation of Warranties

- Compact Dry plates are manufactured at an ISO 9001:2015 facility. If any Compact Dry plate is proven to be defective by fault of the manufacturer or its authorized distributors, they may replace or, at their discretion, refund the purchase price of any plate. These are the exclusive remedies.

### Storage and Shelf Life

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

Shelf life: Twenty-four (24) months after manufacturing. Expiration date is printed on outer box label and aluminum pouch label.

### Package

Compact Dry YMR 100 plates Code 54063

Compact Dry YMR 1400 plates Code 54063-CS

### Further Information

#### Customer Support

Shimadzu Diagnostics Corporation  
3-24-6, Ueno, Taito-ku, Tokyo 110-0005 Japan  
Phone: +81-3-5846-5707  
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### Manufactured by

Shimadzu Diagnostics Corporation  
3-24-6, Ueno, Taito-ku, Tokyo 110-0005, Japan

**Kit components, operating  
instructions and interpretation**



## Test Kit Components

1. Compact Dry YMR Plates

## Additional Reagents and Supplies Required, Not Provided

1. Maximum recovery diluent (MRD). MRD was used for AOAC PTM certification. Prepare according to ISO 21527-1:2008.
2. Filtered Stomacher bags

## Apparatus

1. Stomacher or equivalent for homogenizing sample
2. Pipets: 1 ml
3. Incubator: 25 ± 1°C

## Operating Procedure

### Sample preparation

1. Prepare MRD diluent autoclave for sterilization.
2. **Viable count in solid food products:** Weigh 10 g of sample into a filtered stomacher bag. Add 90 ml MRD. Homogenize in a stomacher for 1 minute ± 10 seconds.
3. **Viable count in liquid food products:** Weigh 10 g of sample and add 90 ml MRD. Homogenize in a stomacher for 1 min ± 10 s.
4. **Viable count in swab test sample (not included in AOAC validation):** Use swab diluent, (diluted if necessary in MRD) obtained from the cotton swab. It is recommended to use Easy Wiping Kit Swab Test ST25PBS (Code 06698) available as an optional kit.

## Directions for Compact Dry YMR

1. Open aluminum pouch, and remove 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 connected set of four plates when serial dilution measuring is intended.
3. Remove the cap from the plate, pipette 1 ml of sample (to be diluted further if necessary) in the middle of the dry sheet, and replace cap. Sample diffuses automatically and evenly over the entire sheet (total medium of 20 cm<sup>2</sup>) to transform to gel and will gel within seconds.
4. Write the appropriate information in the labeling area. Invert the capped plate and place in incubator at 25 ± 1°C. Incubate 72 ± 3 hours.
- 5) From the backside of the plate, count the blue or white colonies as yeast and filamentous colonies as mold. White paper placed under the plate can make colony counting easier. For large numbers of colonies, use the grids carved on the backside consisting of 1 cm x 1 cm, or 0.5 cm x 0.5 cm, at the four corners.
- 6) The enumeration range of Compact Dry YMR is 1–150 cfu/plate. Dilute samples further in the appropriate diluent as necessary to achieve a concentration level in the countable range on this product.

## Precautions for Use

1. Do not use Compact Dry YMR for human and animal diagnosis.
2. During inoculation, do not touch the surface of medium.
3. During incubation, keep cap tight to avoid any possible dehydration.
4. Use of filtered Stomacher bags is recommended to eliminate risks of carryover of tiny pieces of foodstuffs onto the surface of the medium.
5. If the nature of sample affects the reaction of the medium, inoculate the sample only after the factor has been eliminated by means such as dilution, pH or others. This may include samples with high viscosity, deep color.

6. If a diluent with high buffering capacity [e.g. buffered peptone water (BPW)] is used or this product, the coloration of colonies may be weakened. Please use the diluents such as saline solution, phosphate buffered solution, or peptone salt solution. For surface sampling, it is recommended to use Easy Wiping Kit Swab Test ST25PBS (Code 06698 ) available as an optional kit.

## Interpretation

The Compact Dry YMR plate consists of a special spread sheet containing nutrients, antibiotics to inhibit bacterial growth, a chromogenic enzyme substrate, X-phos, and a cold water-soluble gelling agent in a unique plastic dish. Yeasts and molds form blue colonies. While most colonies are some shade of blue, any colored colony should be counted. In addition, mold colonies may have a filamentous appearance relating to the genus viewable from the front of the plate.

### Precautions for interpretation

1. The full plate size is 20 cm<sup>2</sup>. The backside contains carved grids of 1 cm x 1 cm and 0.5 cm x 0.5 cm to make colony counting easier. If large numbers of colonies are present on the medium, the total viable count can be obtained by averaging the number of colonies per large grid (1 cm x 1 cm), counted from several grids, and multiplying by 20. Alternatively, when large numbers of colonies are present, the total viable count can be obtained by averaging the number of colonies per small grid (0.5 cm x 0.5 cm) and multiplying by 80.
2. If more than 10<sup>4</sup> cfu/ml were inoculated onto a Compact Dry YMR plate, no distinguishable colored colonies will form and the entire plate may become colored.
3. During exclusivity testing, *Klebsiella pneumoniae* and *Pseudomonas fluorescens* showed growth on the Compact Dry YMR medium after 72 hours at 25 ± 1°C when inoculated at a high level (>10<sup>8</sup> cfu/ml). *Klebsiella pneumoniae* grew weakly with less than 10 small blue colonies after 72 hours of incubation. *Pseudomonas fluorescens* showed no distinct colonies, but the background of the plate turned green, indicating a lawn of growth.