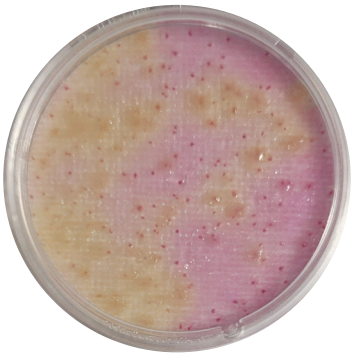
Compact Dry™ ETB

Ready-to-Use Medium for
Enterobacteriaceae



PERFORMANCE TESTED AOAC RESEARCH INSTITUTE
LICENSE NUMBER 012001

Background

Enumeration of *Enterbacteriacae* in food products and food environments helps to monitor the degree of cleanliness and sanitation. Traditional plate methods have been widely used to determine microbial counts, but these methods are time-consuming and require media preparation time. 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.

Compact Dry ETB is a simplified medium to determine number of *Enterobacteriaceae* by the combination of selective agents and a pH indicator.

Certification by AOAC

Compact Dry ETB has been compared to ISO 21528-2:2014 and certified by the AOAC Research Institute Performance Tested Methods℠ Program (Certificate No. 012001) for enumeration of *Enterobacteriaceae* in raw ground beef, cooked chicken, lettuce (pre-washed, bagged, shredded iceberg), frozen fish (cod fillets), instant nonfat dry milk powder and pasteurized milk (2%), pasteurized cream, cream cheese, ready-to-cook fresh vegetables, vegetable juice, raw ground pork, raw bacon, fresh-cooked prawns, fish pâté, and cooked, chilled rice. Microval validation certified method in compliance with ISO 16140-2:2016 in comparison to ISO 21528-2:2014.

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 expires.
- 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. Return any unused plates to the aluminum bag 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.
- Procedures with microorganisms involve certain risks of laboratory-acquired infections. Procedures 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, and then dispose of it as industrial waste according to local laws and regulations for disposal of such material.

4. Limitation of warranties

- Compact Dry plates are manufactured at 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: Sixteen (16) months after manufacturing. Expiration date is printed on outer box label and aluminum bag label.

Package

Compact Dry ETB 100 plates	Code 54055
Compact Dry ETB 1400 plates	Code 54055-CS

Further Information

Customer Support

Shimadzu Diagnostics Corporation
3-24-6, Ueno, Taito-ku, Tokyo 110-0005 Japan
Phone: +81-3-5846-5707
contact@sdc.shimadzu.co.jp

Manufactured by

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

Kit components, operating instructions and interpretation ➤

Compact Dry™ ETB

Test Kit Components

1. Compact Dry ETB Plates

Additional Reagents and Supplies Required, Not Provided

1. Maximum recovery diluent (MRD); MRD was used for AOAC PTM certification
2. Filtered Stomacher bags

Apparatus

1. Lab paddle blender, blender, or vortex mixer for homogenizing sample
2. Pipets: 1 ml
3. Incubator: 37 ± 1°C

Operating Procedure

Preparation of sample

1. **Viable count in solid food products:** Weigh a 10 g sample and add 90 ml Maximum Recovery Diluent (MRD). Homogenize in a Stomacher or blender for 2 min ± 15 sec. For milk powder, weigh a 10 g test portion and add to 90 ml MRD (pre-warmed to 45 ± 1°C). Slowly swirl and shake until dissolved.
2. **Viable count in water or liquid food products:** Use without dilution, dilute 1 ml in 9 ml MRD, or dilute further if viable count is expected to be >150 cfu/ml. Vortex to mix.
3. **Viable count in swab test specimen (not included in AOAC validalion):** Drop 1 ml of wiping solution (to be diluted if necessary), obtained from a cotton swab, in the middle of a dry Compact Dry plate. It is recommended to use Easy Wiping Kit Swab Test S1-25PBS (Code 06698), available as an optional kit.

Directions for Compact Dry ETB

1. Open aluminum pouch and take out a set of four plates.
2. Detach the necessary number of plate(s) from a set of four by bending up and down while pressing the lid. Use a set of four connected plates when serial dilution measuring is intended.
3. Remove cap from plate, pipette 1 ml of sample (to be diluted further if necessary) in the middle of the dry plate and replace cap. Specimen diffuses automatically and evenly over the entire plate (total medium of 20 cm^2) to transform it into a gel within seconds.
4. Write the appropriate sample information in the memorandum section. Cap plate tightly, turn over, and place in incubator at 37 ± 1°C for 24 ± 2 hours.
5. From the back side of the plate, count the number of red/red-purple colonies. White paper placed under the plate can help with colony counting.

Precautions for Use

1. During inoculation, do not touch the surface of medium and/or tip of pipette, and be careful to avoid any contamination by falling microorganisms.
2. During incubation, keep lid of Compact Dry plate tight to avoid any possible dehydration.
3. It is recommended to use a Stomacher bag with filter to eliminate risks of contamination by food particles.
4. Dilute sample with MRD to a level of contamination of 1–150 cfu/plate.
5. If more than 10^4 cfu are inoculated onto a plate, no independent colonies will be formed, and the whole plate may become colored.
6. 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 adjustment, or others. This may include samples with high viscosity, deep color, or pH >9.0 or <5.0.
7. If a diluent with high buffering capacity (e.g. buffered peptone water [BPW]) is used on this product, the coloration of colonies may be weakened. Please use diluents such as saline solution, phosphate buffered solution, or peptone salt solution. For surface sampling, it is recommended to use Swab Test Kit ST-25PBS (Code 06698), available as an optional kit.

Interpretation

Enterobacteriaceae form red/red-purple colonies of 1–2 mm in diameter by pH indicator contained in the medium.

Precautions for interpretation

1. The Compact Dry plate size is 20 cm^2, and the back of the plate has a carved grid of 1 cm x 1 cm to make colony counting easier. When it is difficult to count colonies due to a large number grown in the medium, the total bacterial number can be obtained by multiplying 20 by an average number of colonies per grid (1 cm x 1 cm).
2. Though some bacteria other than *Enterobacteriaceae* may also grow and form white and/or yellow colonies in this plate, only red/red-purple colonies should be counted.
3. Certain *Enterobacteriaceae* may grow quickly and alkalize the medium. As a result, red/red-purple colonies may get discolored and form yellow colonies. If needed, plates may be counted at 18 hours.
4. Colonies of certain *Enterobacteriaceae* may be diffused. In such cases, the dark point in the center of each diffused colony should be counted.
5. Compact Dry ETB may not detect certain strains of *Serratia*, *Raoultella*, and *Yersinia*. Compact Dry ETB has been shown to detect *Pasteurella bettyae*.

