

CompactDry™ PA

Simple and Easy Dry Medium for *Pseudomonas Aeruginosa*

*Background

To save the time of operator and make it possible for anyone to perform the microbial count test without difficulty, Shimadzu Diagnostics Corporation has successfully developed CompactDry™ based on new concept and technology that may be 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 need to prepare medium, which eliminates the waste of medium as well as the apparatus to prepare the medium. Good for emergency and field testing.
- 3) Sample diffuses automatically and evenly into the plate: No need to mix and dilute after sampling.
- 4) Dried plate with 19-month shelf life at room temperature: Easy to store. Once a liquid sample is added, 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 other media.
- 6) Good correlation with Pour Plate method: Maintain the continuity of data accumulated.

* Intended Use

This product is intended for use by microbiologists for the enumeration of *Pseudomonas Aeruginosa* in food and related samples.

*Certification by MICROVAL

The CompactDry™ PA has been validated and certified in accordance with ISO 17994:2014, for enumeration of total *Pseudomonas Aeruginosa* in a broad range of water types for human consumption, certificate number 2017LR66.

Test Kit Components

- 1) CompactDry™ PA Plates

*Apparatus

- 1) Blender or Stomacher™ or equivalent for homogenizing sample
- 2) Pipets – 1 mL
- 3) Incubator – 48 ± 3 hours at 36 ± 1 °C

* Operating Procedure

Preparation of specimen

- 1) Viable count in solid foodstuffs
Add appropriate volume of buffer solution (e.g. PBS, 1 part solid foodstuff + 9 parts buffer) to the sample and homogenize using a stomacher® and suitable stomacher® bags. Drop 1 ml of homogenized sample (dilute if necessary) on the middle of the dry sheet of the Compact Dry plate.
- 2) Viable count in liquid foodstuffs
Add 1 ml diluent, e.g. Peptone water or other appropriate diluent according to EN ISO 6887 in the middle of the plate. Filtrate 100 ml of water sample (or more e.g. 250 ml for bottled water) using a 47 mm diameter, sterile membrane with 0.45 µm pore size. Directly after the end of filtration apply the filter on the pre-moisturized CompactDry™ plate. Take care that the filtration side is upwards.
- 3) Viable count in swab test sample (not included in MICROVAL certification)
Wiping solution, which is obtained from cotton swab, is used without dilution or diluted in MRD. It is recommended to use CompactDry Swab PBS (450002-PBS-0500) available as an optional kit.

* Direction for CompactDry™ TC

- 1) Open the aluminum pouch and take out a set of 4 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 plates being connected 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 sheet and replace the lid. The specimen diffuses automatically and evenly over the entire sheet (total medium of 20 cm²) to transform it into a gel within seconds.
- 4) Write the appropriate sample information in the memorandum section. Invert the cap plate and place in incubator at 36 ± 1°C during 48 ± 3 h.
- 5) From the backside of the plate, count the number of colonies (colored and colorless) in the medium. 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) Enumeration range of CompactDry™ PA is 1–300 cfu/plate. Specimen should be diluted in buffer to obtain a concentration level less than 300 cfu/plate.

*Precaution for use

- 1) Do not use CompactDry™ PA for human and animal diagnosis.
- 2) To avoid microbial contamination, do not touch the surface of the dry sheet medium during inoculation.
- 3) During incubation, keep lid 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 more than 10⁴ cfu/ml were inoculated onto a plate, no distinguishable colored colonies will form and the entire plate will become colored.
- 6) If the nature of the 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 other. This may include samples with high viscosity, that are colored, that react with the redox indicator, or that have too high or too low pH.

*Interpretation

- 1) *Pseudomonas Aeruginosa* grows to develop red colonies surrounded by a greenish-yellow halo as the medium contains specific chromogenic enzyme substrate.
- 2) When using the membrane filtration method, you should Count all blue/green colonies

as confirmed *P. Aeruginosa* Examine membrane under UV light and count non blue/green colonies that fluoresce as presumptive *P. Aeruginosa* and confirm with acetamide broth. Also, count all reddish-brown colonies that do not fluoresce as presumptive *P. Aeruginosa* and confirm using acetamide broth, oxidase test and Kings B media

- 3) The full plate size is 20 cm². 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 could 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, the total viable count could be obtained by averaging the number of colonies per small grid (0.5 cm x 0.5 cm), counted from several grids, and multiplying by 80.

* Warning and Direction for Use

1. General precautions

- 1) Read and precisely follow the warnings and directions for use described in the package insert and/or label.
- 2) Do not use the product after its expiration date. Quality of the product is not warranted after its shelf life.
- 3) Do not use products that contain any foreign materials, is discolored, or dehydrated, or has a damaged container.
- 4) Use plates as soon as possible after opening. Return any unused plates to the aluminum pouch and seal with tape to avoid light and moisture. CompactDry™ PA is sensitive to light, which affects the color development of colonies.
- 5) Cap tightly after inoculation to avoid dehydration of gelled medium.

* 2. Safety Precautions

- 1) If medium or reagent comes into contact with eyes or mouth, immediately wash with water and consult a physician.
- 2) Manipulations with microorganisms involve certain risks of laboratory acquired infections. Manipulations should be carried out under the supervision of trained laboratory personnel with biohazard protection measures.
- 3) 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. User Responsibility

- 1) It is the user's responsibility in selecting any test method to evaluate a sufficient number of samples with particular foods and microbial challenges to satisfy the user that the chosen test method meets the user's criteria.
- 2) 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.
- 3) It is the user's responsibility to validate the performance of this method for use with any non-certified matrix.

* 5. Limitation of Warranties

CompactDry™ plates are manufactured at ISO 9001:2015 facility. If any CompactDry™ 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: Nineteen (19) months after manufacturing.

Expiration date is printed on outer box label and aluminum pouch label.

Package

CompactDry™ PA 100 plates

Code HS9491

Further information

Customer Support Section

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