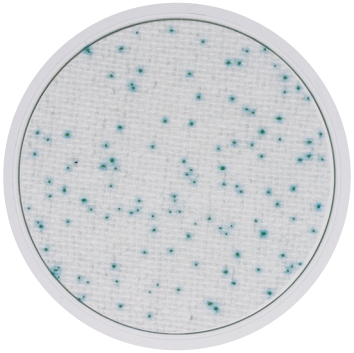
Compact Dry™ XSA

Ready-to-Use Medium for
Staphylococcus aureus



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Background

It is important to detect and determine the bacterial number in food products and food environment to monitor the degree of cleanness as well as their sanitary safety. Mixing and dilution culture method has been widely used to determine the microbial count. The method is time-consuming and complicated, requiring operations such as preparation of hot agar, mixing and dilution uniformly and/or smearing. 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 XSA is a simplified medium to determine *Staphylococcus aureus* by the combination of selective agents and chromogenic substrates.

Intended Use

Compact Dry XSA is intended for use by microbiologists for the isolation and enumeration of *Staphylococcus aureus* in food and related samples.

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

- 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-one (21) months after manufacturing. Expiration date is printed on outer box label and aluminum bag label.

Package

Compact Dry XSA 100 plates	Code 54057
Compact Dry XSA 1400 plates	Code 54057-CS

Further Information

Customer Support
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Shimadzu Diagnostics Corporation
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Kit components, operating instructions and interpretation

Operating Procedure

Preparation of specimen

1. Prepare appropriate diluent such as Butterfield's buffered phosphate diluent or saline solution. Maximum Recovery Diluent was used for AOAC PTM certification.
2. **Viable count in solid food products:** Weigh 10 g solid sample and add 90 ml diluent to the sample. Homogenize this mixed sample by a blender (ex. CELL MASTER CM-100: AZ ONE CORP, it is non-exclusive). Pipette 1 ml of homogenized specimen (to be further diluted if necessary) in the middle of dry sheet of Compact Dry XSA.
3. **Viable count in water or liquid food products:** Pipette 1 ml of liquid sample (to be diluted if necessary) in the middle of dry sheet of Compact Dry XSA.
4. **Viable count in swab test sample (not included in AOAC validation):** Inoculate 1 ml of wiping solution (to be diluted if necessary), which is obtained from cotton swab, in the middle of dry sheet of Compact Dry XSA. It is recommended to use Swab Test ST-25PBS (Code 06698) available as an optional kit.

Directions for Compact Dry XSA

1. Open an aluminum bag 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 plates being connected when a series of diluted samples is inoculated.
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. Turn over the capped plate after putting on the lid again, and incubate for 24 ± 2 hours at 37 ± 1°C.
5. Count light blue/blue colonies for *S. aureus*. White paper placed under the plate can be useful for counting.

Precautions for Use

1. Compact Dry XSA was validated with frozen prawns, cooked ham, raw fresh cow's milk, pastries containing fresh cream, and chilled fresh pasta according to the AOAC Research Institute s Performance Tested Method℠ (PTM) program.
2. Compact Dry XSA may be applicable for other food materials, products and related matrices although the validation program of PTM is not performed.
3. Do not use Compact Dry XSA for human and animal diagnosis.
4. During inoculation, do not touch the surface of medium, and be careful to avoid any contamination by falling microorganisms.
5. During incubation, keep cap tight to avoid any possible dehydration.
6. It is recommended to use a stomacher bag with filter to eliminate risks of carryover of tiny pieces of foodstuffs into the surface of the medium.
7. Detection limit of Compact Dry XSA is between 1–150 cfu/plate. Specimen should be diluted by the appropriate diluent to the level of concentration of less than 150 cfu/plate.
8. If bacteria more than 10^4 cfu were inoculated on a plate, no colonies are formed, and no colored colonies eventually are appeared on the plate but all plate sheets becomes seemingly colored.
9. If the nature of sample does affect the reaction of the medium, inoculate the sample only after the factor is eliminated by means of such as dilution and others. For instance; samples such as high viscosity, colored, reacted with enzyme substrate, and too high or too low pH.

Interpretation and Precautions

1. *Staphylococcus aureus* forms light blue/blue colonies of 1–2 mm in diameter by chromgens contained in a medium.
2. The full plate size is 20 cm^2. The backside contains carved grids of 1 cm x 1 cm and 0.5 cm x 0.5 cm to make colony counting easier. When it is difficult to count the colonies due to a large number of colonies 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) calculated from representative grids.
3. Though some bacteria other than *S. aureus* may also grow and form white and/or red purple colonies in this plate, only light blue/blue colonies should be counted.
4. It is known that certain other bacteria (genus *Bacillus* in particular) may grow and form light blue/blue colonies. It is easy to differentiate them from *S. aureus* because almost all of them form relatively large, matte and flat colonies.

