

Technical Information

Soyabean Casein Digest Agar Plate w/ Lecithin and Tween 80 w/ β -Lactamase mixture (Tryptone Soya Agar Plate w/ Lecithin and Tween 80 w/ β -Lactamase mixture) (γ -irradiated) (Triple Pack)

Product Code: PM 2807GT

Application: Recommended for determining efficiency of containers, equipment surfaces, water miscible cosmetics and for inactivation of penicillins, cephalosporins of first, second, third and fourth generation and penems.

Composition**

Ingredients	Gms / Litre
Tryptone	15.000
Soya Peptone	5.000
Sodium chloride	5.000
Lecithin	0.700
Tween 80 (Polysorbate 80)	5.000
β -Lactamase mixture	500 IU
Agar	15.000
Final pH (at 25°C)	7.30 $\pm$ 0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Tryptone Soya Agar with Lecithin and Tween 80 is used for the detection and enumeration of microorganisms present on surfaces of sanitary importances (1,2,3). Tryptone and Soya peptone provide nitrogenous, carbonaceous compounds, long chain amino acids and other nutrients essential for microbial replication. Lecithin and Tween 80 are neutralizers reported to inactivate residual disinfectants from where the sample is collected (4). Lecithin neutralizes quaternary ammonium compounds and Tween 80 neutralizes phenolic disinfectants, hexachlorophene, formalin and with lecithin ethanol (5). β -Lactamase enzyme breaks the β -Lactam ring of antibiotic, deactivating the molecule's antibacterial properties (6,7). Collection of samples from areas before and after the treatment with disinfectant evaluates cleaning procedures in environmental sanitation. The presence and number of microorganisms is determined by the appearance of colonies on the agar surface (8). After counting the colonies, carry out biochemical testing for identification.

Type of specimen

Products of sanitary importance, water miscible cosmetics

Specimen Collection and Handling:

Follow appropriate techniques for handling specimens as per established guidelines (5). Swab specimens can be directly streaked on the plate. Liquid specimens can be inoculated by means of an inoculation loop.

Warning and Precautions :

Read the label before opening the plate. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :



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1. Further biochemical testing is required for complete identification.
2. Individual strain of a microorganism may have unique growth requirements with respect to nutrients and physical conditions. Based on which the growth pattern of each varies on a medium and some even may display significant delay in development.
3. Environmental Monitoring Test : Exposure of media plates for 4 hr as a settle plate or in air sampler or even under laminar air flow may lead reduction in some available moisture on the surface. This may cause development of tiny cracks in the agar or slight shrinkage. This however, does not impact the performance of the media.
4. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Methodology

Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate.

Quality Control

Appearance

Sterile Soyabean Casein Digest Agarw/ Lecithin and Tween 80 w/ β -Lactamase mixture in 90mm plate with smooth surface and absence of black particles/ cracks/ bubbles (Gamma Irradiated, Triple pack)

Colour of medium

Light yellow coloured medium.

Quantity of Medium

30ml of medium in 90mm plates.

pH

7.10-7.50

Sterility Check

Passes release criteria

Dose of Irradiation (Kgy)

13.00- 20.00

Cultural Response

Growth Promotion Test of as such plates was carried out and growth was observed after incubation at 30-35° C for $\leq$ 3 days. Simultaneously growth promotion test was carried out on plates which were seeded with 500 mcg/ml of respective antibiotics.

Recovery Rate

Recovery rate is considered 100% for bacteria growth on Soyabean Casein Digest Agar

Organism	Inoculum (CFU)	Growth	Lot Value (CFU)	Incubation Temperature	Incubation Period	Recovery
Escherichia coli ATCC 25922 (00013*)						
w/o antibiotic	50 -100	Luxuriant	35 -100	30 -35 °C	18 -24 hrs	$\geq$ 70 %
w/ Cephalothin		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	$\geq$ 70 %
w/ Cefamandole		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	$\geq$ 70 %
w/ Cefotaxime		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	$\geq$ 70 %
w/ Ceftazidime		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	$\geq$ 70 %
w/ Cefepime		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	$\geq$ 70 %
w/ Imipenem		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	$\geq$ 70 %
Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)						
w/ Cephalothin		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	$\geq$ 70 %
w/ Cefamandole		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	$\geq$ 70 %
w/ Cefotaxime		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	$\geq$ 70 %
w/ Ceftazidime		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	$\geq$ 70 %
w/ Cefepime		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	$\geq$ 70 %
w/ Penicillin		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	$\geq$ 70 %





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w/o antibiotic Staphylococcus aureus subsp. aureus ATCC 29213 (00131*)	50 -100	Luxuriant	35 -100	30 -35 °C	18 -24 hrs	>=70 %
w/ Penicillin		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	>=70 %
w/o antibiotic Pseudomonas aeruginosa ATCC 27853 (00025*)	50 -100	Luxuriant	35 -100	30 -35 °C	18 -24 hrs	>=70 %
w/Cefotaxime		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	>=70 %
w/Ceftazidime		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	>=70 %
w/Cefepime		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	>=70 %
w/Imipenem		Luxuriant	35 -100	30 -35 °C	18 -24 hrs	>=70 %
w/o antibiotic Growth promoting	50 -100	Luxuriant	35 -100	30 -35 °C	18 -24 hrs	>=70 %
Candida albicans ATCC 10231 (00054*)	50 -100	luxuriant	35 -100	30 -35 °C	<=5 d	>=70 %
Candida albicans ATCC 2091 (00055*)	50 -100	luxuriant	35 -100	30 -35 °C	<=5 d	>=70 %
#Aspergillus brasiliensis ATCC 16404 (00053*)	50 -100	luxuriant	35 -100	30 -35 °C	<=5 d	>=70 %
#Aspergillus brasiliensis ATCC 16404 (00053*)	50 -100	luxuriant	35 -100	30 -35 °C	<=5 d	>=70 %

Key : * - Corresponding WDCM numbers, (#) - Formerly known as Aspergillus niger

Storage and Shelf Life

On receipt store between 20-30°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (9,10).

Further Reading

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6. Abraham EP, Chain E (1940). "An enzyme from bacteria able to destroy penicillin". Nature 46: 837.
7. Wright and Welch, 1959-60, Antibiotics Ann., 61.
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9. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
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Ready Prepared Media

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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