CFC Agar Base (Cephalothin-Sodium Fusidate-Cetrimide Agar)

M1848

Intended use

Recommended for selective isolation of *Pseudomonas* species. The composition and performance of this medium are as per the specification laid down in ISO 13720:2010, EN ISO 11133:2014 (E) & Amd:2020.

Composition**

As per ISO specification - CFC.	
Ingredients	**g / L**
Enzymatic digest of gelatin	16.000
Enzymatic digest of casein	10.000
Potassium sulphate Magnesium chloride	10.000
Agar	1.400
Final pH (at 25°C)	12.00-18.00
	7.2±0.2

CFC Agar Base	**M1848**
Ingredients	**g / L**
Gelatin peptone#	16.000
Casitose ##	10.000
Potassium sulphate	10.000
Magnesium chloride	1.400
Agar	15.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Equivalent to Enzymatic digest of gelatin ## Equivalent to Enzymatic digest of casein

Directions

Suspend 52.4 gram in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add sterile rehydrated contents of two vials of Modified CFC Selective Supplement (FD281). Mix well and pour into sterile Petri plates.

Note: Do not keep the molten agar for longer than 4 hours.

Principle And Interpretation

CFC Agar Base is prepared according to ISO 13720 (1) which contains magnesium chloride and potassium sulphate to enhance pigment production. It is recommended for enumeration of *Pseudomonas* species from meat and meat products including poultry by means of colony count technique after incubation at 25ºC for 48 hours. Performance testing of this medium are as per the specifications laid down in ISO 11133 (2). Goto and Enomoto (3) formulated CetriNix supplement for the selective isolation of *Pseudomonas aeruginosa* from clinical specimens. Lowbury and Collins (4) studied cetrimide as a selective agent. CetriNix supplement suppresses *Klebsiella, Proteus* and *Providencia* species. Modified CFC Selective Supplement was formulated as per the recommendations of ISO (1) for selective isolation of *Pseudomonas* species. It contains cephalothin, sodium fusidate and cetrimide.

Type of specimen

Food samples

Specimen Collection and Handling:

Processing as per ISO 13720:2010 (1)

Transfer, by means of another sterile pipette, 0.1 ml of the first decimal dilution of the initial suspension on to the CFC Agar plate (M1848). Spread the liquid over the surface of the agar plate with a sterile spreader. Incubate the dishes prepared in this way, with their lids downwards, in an incubator at 25 °C ± 1 °C for 44 h ± 4 h. After the specified incubation period. Randomly select five colonies for confirmation test.

Confirmation

Oxidase reaction: Put a oxidase disc (DD018) on selected colony & observe for development of violet to purple colour within 10 seconds considered as positive test. If the colour has not changed after 30 seconds, the test is considered to be negative.

Warning and Precautions :

Read the label before opening the container. 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 :

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. 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.
3. Further biochemical and serological testing is necessary for confirmation.

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.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder
Gelling
Firm, comparable with 1.5% Agar gel
Colour and Clarity of prepared medium
Yellow coloured clear to slightly opalescent gel forms in Petri plates
Reaction
Reaction of 5.24% w/v aqueous solution at 25°C. pH : 7.2±0.2
pH
7.00-7.40
Cultural Response
Productivity : Cultural response was observed after an incubation at 25±1°C for 44 ± 4 hours. Recovery rate is considered as 100% for bacteria growth on Reference medium - Soyabean Casein Digest Agar (Tryptone Soya Agar).
Selectivity : Cultural response was observed after an incubation at at 25±1°C for 44 ± 4 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Productivity			
Pseudomonas fluorescens ATCC 13525 (00115*)	50 -100	luxuriant	>=50 %
Pseudomonas fragi ATCC 4973 (00116*)	50 -100	luxuriant	>=50 %
Selectivity			
Escherichia coli ATCC 8739 (00012*)	>=10^4	inhibited	
Escherichia coli ATCC 25922 (00013*)	>=10^4	inhibited	

Key : * - Corresponding WDCM numbers

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle inorder to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. 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 (5,6).

Reference

1.Meat and meat products, Enumeration of presumptive *Pseudomonas* spp., ISO 13720:2010.

2.Microbiology of food, animal feeding stuffs and water-Preparation , production, storage and performance testing of culture media, ISO11133:2014 & Amd.: 2020.

3.Goto S. and Entomoto S., 1970, Jap. J. Microbiol., 14:65.

4.Lowbury E.J. and Collins A.G., 1955, Clin. Path., 8:47.

5.Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.

6.Jorgensen,J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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