Starch Agar

M107S

Starch Agar is used for detection of starch hydrolysing microorganisms.

Composition**

Ingredients	Gms / Litre
Meat Extract	3.000
Peptic digest of animal tissue	5.000
Starch, soluble	2.000
Agar	15.000
Final pH (at 25°C)	7.2±0.1

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 25 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 10 minutes. Mix well and pour in sterile Petri plates.

Principle And Interpretation

Starch Agar was formulated by Vedder (1) for the cultivation of *Neisseria* . It is recommended for the detection of starch hydrolysing microorganisms from foods (2) and clinical samples (3). Present formulation is accepted by BIS for detection of starch hydrolysis by *Bacillus cereus* (4).

Peptic digest of animal tissue and meat extract provide nitrogenous compounds, carbon, sulphur, trace elements etc. to the microorganisms.

Flood the surface of 24 - 48 hour old culture on Starch Agar with Grams Iodine (S013). Starch hydrolysis is seen as a colourless zone surrounding the colonies. A blue or purple zone indicates that starch is not hydrolyzed.

Quality Control

Appearance
Yellow coloured homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Yellow coloured slightly opalescent gel forms in Petri plates.

Reaction
Reaction of 2.5% w/v aqueous solution at 25°C. pH : 7.2±0.1

pH
7.10-7.30

Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 18 - 48 hours.(key *- On addition of Iodine solution)

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery	Starch Hydrolysis *
Cultural Response				
Bacillus cereus ATCC 10876	50-100	luxuriant	>=70%	Positive reaction, clearing around the colony
Bacillus subtilis ATCC 6633	50-100	luxuriant	>=70%	Positive reaction ,clearing

				around the colony
Escherichia coli ATCC 25922	50-100	luxuriant	>=70%	Negative reaction , no clearing
Staphylococcus aureus ATCC 25923	50-100	luxuriant	>=70%	Negative reaction , no clearing
Streptococcus pyogenes ATCC 19615	50-100	luxuriant	>=70%	Negative reaction , no clearing

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

1. Vedder, 1915, J. Infect. Dis., 16:385.
2. Harrigan W. and McCance M., 1976, Laboratory Methods in Food and Dairy Microbiology, Academic Press Inc. (London) Ltd.
3. Lennette and others (Eds.), 1985, Manual of Clinical Microbiology, 4th ed., ASM,Washington, D.C.
4. Bureau of Indian Standards, IS : 5887 (Part IV) 1976.

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