



ISP Medium No. 4 (Inorganic Salt Starch Agar)

M359

ISP medium No. 4 (Inorganic Salt Starch Agar) is used for cultivation and characterization of *Streptomyces* species as per International Streptomyces Project.

Composition**

Ingredients	Gms / Litre
Starch, soluble	10.000
Dipotassium phosphate	1.000
Magnesium sulphate. heptahydrate	1.000
Sodium chloride	1.000
Ammonium sulphate	2.000
Calcium carbonate	2.000
Ferrous sulphate, heptahydrate	0.001
Manganous chloride, 7H ₂ O	0.001
Zinc sulphate, 7H ₂ O	0.001
Agar	20.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 36.5 grams of dehydrated medium in 1000 ml distilled water. Heat just to boiling. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Agitate constantly while pouring into sterile Petri plates to obtain a uniform suspension.

Note: Due to presence of calcium carbonate, the medium forms opalescent solution with white precipitate .

Principle And Interpretation

ISP Medium No. 4 is formulated based on the original formula of Shirling and Gottlieb (1) and is used for characterization of *Streptomyces* species.

Starch provides the energy source. Dipotassium phosphate acts as buffering system while sodium chloride maintains the osmotic equilibrium of the medium. The salts provide essential electrolytes and minerals.

Inoculate the plates by streaking, using 0.1 ml of the test culture enriched in ISP Medium No. 1 (M356).

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 2.0% agar gel.

Colour and Clarity of prepared medium

Light amber coloured, opalescent gel forms in Petri plates

Reaction

Reaction of 3.65% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

M359: Cultural characteristics observed after an incubation at 30-32°C for 48-72 hours

Organism

Growth

Cultural Response

Streptomyces achromogenes good-luxuriant
ATCC 12767

Streptomyces albus subsp good-luxuriant
albus ATCC 3004
Streptomyces lavendulae good-luxuriant
ATCC 8664

Storage and Shelf Life

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

Reference

1. Shirling E. B. and Gottlieb D., 1966, International J. Systemic Bacteriol. Vol 16 (3) :313.

Revision : 2 / 2015

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