



ISP Medium No. 6 (Peptone Yeast Extract Iron Agar)

M361

Intended Use:

Recommended for use as per International Streptomyces Project.

Composition**

Ingredients	Gms / Litre
Peptone	15.000
Proteose peptone	5.000
Yeast extract	1.000
Ferric ammonium citrate	0.500
Dipotassium hydrogen phosphate	1.000
Sodium thiosulphate	0.080
Agar	15.000
Final pH (at 25°C)	6.7±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 37.58 grams 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. Mix well and pour into sterile Petri plates.

Principle And Interpretation

ISP Medium No. 6 (Peptone Yeast Extract Iron Agar) is recommended by International Streptomyces Project for the cultivation and maintenance of *Streptomyces* species (1, 5).

Peptone, proteose peptone and yeast extract provide carbon, nitrogen, sulphur, vitamin B complex and other essential growth nutrients. Dipotassium hydrogen phosphate gives the medium good buffering capacity. Ferric ammonium citrate and sodium thiosulphate together serve as hydrogen sulphide indicator system.

Type of specimen

Food samples

Specimen Collection and Handling:

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (4).

After use, contaminated materials must be sterilized by autoclaving before discarding.

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. Further biochemical tests must be carried out 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 3.76% w/v aqueous solution at 25°C. pH : 6.7±0.2

pH

6.50-6.90

Cultural Response

Cultural characteristics observed after an incubation at 30-32°C for 18-48 hours

Organism**Growth***Streptomyces lavendulae* good-luxuriant
ATCC 8664*Streptomyces achromogenes* good-luxuriant
ATCC 12767*Streptomyces albus* subsp. good-luxuriant
albus ATCC 3006**Storage and Shelf Life**

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order 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 (2,3).

Reference

1. Atlas R. M., 1993, Handbook of Microbiological Media, Parks, L.C., (Ed.), CRC Press, Inc.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. 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.
4. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, American Public Health Association, Washington, D.C.
5. Shirling E. B., and Gottlieb D., 1966, Methods for Characterization of *Streptomyces* species, Int. J. Syst. Bacteriol., 16:313.

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