

## Technical Information

### ISP Medium No. 5 (Glycerol Asparagine Agar Base)

#### Product Code: DM 1360

**Application:** - ISP Medium No. 5 (Glycerol Asparagine Agar Base) is recommended for cultivation of *Streptomyces* species as per International Streptomyces Project.

#### Composition\*\*

Ingredients	Gms / Litre
L-Asparagine	1.000
Dipotassium phosphate	1.000
*Trace salt solution (ml)	1.000
Agar	20.000
1ml of Trace salt solution contains	-
Ferric sulphate heptahydrate	0.001
Manganese chloride tetrahydrate	0.001
Zinc sulphate heptahydrate	0.001
Final pH ( at 25°C)	7.4±0.2

\*\*Formula adjusted, standardized to suit performance parameters

#### Principle & Interpretation

ISP Medium No. 5 (Glycerol Asparagine Agar Base) has composition described by Shirling and Gottlieb <sup>(1)</sup> and is used for cultivation and characterization of *Streptomyces* species as recommended by the International Streptomyces Project. Being primarily soil inhabitants, *Streptomyces* are one of the most common agents of causing actinomycotic mycetoma. Areas of body more prone to formation of mycetomas are those that are frequently traumatized or come in contact with soil <sup>(2)</sup>.

This medium provides consistent and reproducible characteristic features which help in the identification of *Streptomyces*. Glycerol serves as the carbon source while asparagine is the amino acid source for the growth of *Streptomyces* species. Trace mineral requirement of *Streptomyces* is satisfied by the trace salt solution, which contains various salts. Dipotassium phosphate buffers the medium.

#### Methodology

Suspend 23 grams of powder media in 1000 ml distilled water containing 10 ml glycerol. Shake well & heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

#### Quality Control

##### Physical Appearance

Off-white to yellow homogeneous free flowing powder

##### Gelling

Firm, comparable with 2.0% agar gel.

##### Colour and Clarity of prepared medium

Light amber coloured, clear to slightly opalescent gel forms in Petri plates

##### Reaction

Reaction of 2.3% w/v aqueous solution containing 1.0% glycerol at 25°C. pH : 7.4±0.2



Dehydrated Culture Media  
Bases / Media Supplements

**pH Range** 7.20-7.60

#### **Cultural Response/Characteristics**

DM 1360: Cultural characteristics observed after an incubation at 25-30°C upto 15 days.

<b>Organism</b>	<b>Growth</b>
<i>Streptomyces albus subsp albus</i> ATCC 3006	good-luxuriant
<i>Streptomyces lavendulae</i> ATCC 8664	good-luxuriant
<i>Streptomyces peucetius</i> ATCC 29050	good-luxuriant

## **Storage and Shelf Life**

**Dried media:** Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

**Prepared Media:** 2-8<sup>0</sup> in sealable plastic bags for 2-5 days.

## **Further Reading**

1. Shirling E. B. and Gottlieb D., 1966, International J. Systemic Bacteriol., 16:3.
2. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.

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