TM 132 - ISP MEDIUM NO. 7 (TYROSINE AGAR)

INTENDED USE

For isolation and characterization of *Streptomyces* species as per International Streptomyces Project.

PRODUCT SUMMARY AND EXPLANATION

Streptomyces and *Nocardia* species appear morphological similar in clinical material and in culture. Nocardiosis, caused by *Nocardia* species, is a disease of man, most frequently encountered in patients who are severely immunosuppressed and in animals. *Streptomyces* species may be differentiated from *Nocardia* species based on tyrosine and asparagine utilization. Clear zones in the medium surrounding colony growth indicate hydrolysis of the substrate present. International Streptomyces Project Medium No. 7 (Tyrosine Agar) is recommended for the isolation and enumeration of *Streptomyces* species. It is used for the differentiation of *Streptomyces* species based on tyrosine utilization.

COMPOSITION

Ingredients	Gms / Ltr
L-Asparagine	1.000
L-Tyrosine	0.500
Dipotassium hydrogen phosphate	0.500
Magnesium sulphate heptahydrate	0.500
Sodium chloride	0.500
Trace salt solution (ml)	1.000
Agar	20.000
Trace salt solution contains	-
Ferrous sulphate heptahydrate	1.360mg
Copper chloride, 2H2O	0.027mg
Cobalt chloride, 6H2O	0.040mg
Sodium molybdate, dihydrate	0.025mg
Zinc chloride	0.020mg
Boric acid	2.850mg
Manganese chloride, tetrahydrate	1.800mg
Sodium tartarate	1.770mg

PRINCIPLE

The medium contains L-tyrosine, which is utilized by *Streptomyces* species. Zone of clearance around the colony indicates tyrosine hydrolysis. Trace elements provide essential factors for the growth of *Streptomyces* species. Inoculate the medium by streaking the isolate to be tested onto the agar surface with a sterile inoculating loop. The medium may need to be incubated for upto 3 weeks to allow positive hydrolytic reactions to develop. Examine plates at regular intervals for growth and hydrolysis.

INSTRUCTION FOR USE

- Dissolve 23.50 grams in 1000 ml purified/distilled water containing 15 ml glycerol.
- Heat to boiling to dissolve the medium completely.

- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Yellow coloured, clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 7.3±0.1

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Tyrosine hydrolysis	Incubation Temperature	Incubation Period
Streptomyces achromogenes	12767	50-100	Good-luxuriant	>=50%	Positive reaction, clear zones around the colonies	25-30°C	48-72 Hours
Streptomyces albus subsp albus	3006	50-100	Good-luxuriant	>=50%	Positive reaction, clear zones around the colonies	25-30°C	48-72 Hours
Streptomyces lavendulae	8664	50-100	Good-luxuriant	>=50%	Positive reaction, clear zones around the colonies	25-30°C	48-72 Hours
Streptomyces lividans	69441	50-100	Good-luxuriant	>=50%	Positive reaction, clear zones around the colonies	25-30°C	48-72 Hours

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Atlas R. M., 1993, Handbook of Microbiological Media, Parks, L.C., (Ed.), CRC Press, Inc

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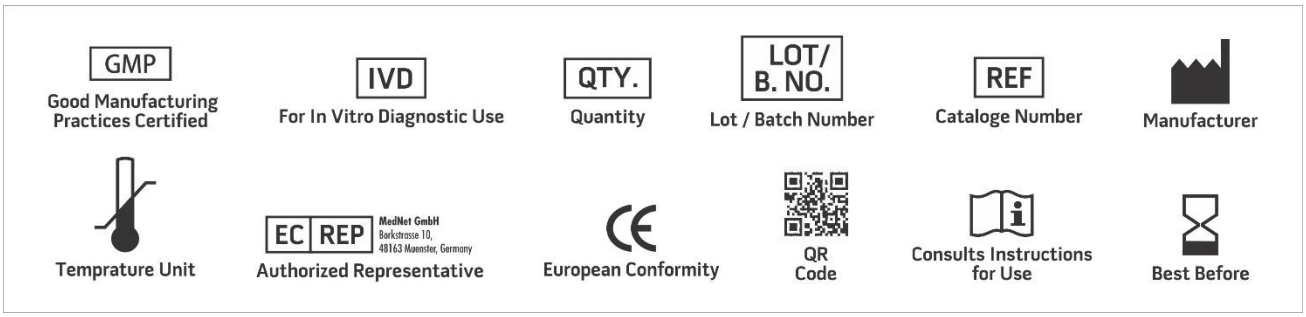
3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
4. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, American Public Health Association, Washington, D.C.
5. Sherling E.B. and Gotlieb.,1966, International J. Systemic Bacteriol., 16:3.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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