

TM 007 – ACTINOMYCETE ISOLATION AGAR

INTENDED USE

For isolation and propagation of *Actinomycetes* from soil and water.

PRODUCT SUMMARY AND EXPLANATION

Actinomycetes are gram-positive bacteria, which show marked chemical and morphological diversity but form a distinct evolutionary line of organisms that range from coccoid and pleomorphic forms to branched filaments. *Actinomycetes* form an integral part of soil, water and vegetation. *Actinomycete* development leads to the formation of volatile metabolites. Traces of these volatile metabolites are sufficient to impart disagreeable odour to water or a muddy flavour to fish. *Actinomycetes* also cause disruptions in wastewater treatment by forming massive growths, which are capable of producing thick foam in the activated sludge process. Actinomycetes Isolation Agar used for isolation and propagation of *Actinomycetes* from soil and water was formulated by Olsen.

Inoculate the plates with 1 drop of diluted culture or specimen and spread over the surface using a sterile bent glass rod. Incubate at 35-37°C for 40-72 hours. The media can be used for long term storage after sufficient growth is obtained. Agar slants are used for maintenance of cultures over a shorter period of time.

COMPOSITION

Ingredients	Gms / Ltr
Sodium caseinate	2.000
L-Asparagine	0.100
Sodium propionate	4.000
Dipotassium phosphate	0.500
Magnesium sulphate	0.100
Ferrous sulphate	0.001
Agar	15.000

PRINCIPLE

Actinomycete Isolation Agar contains sodium caseinate as nitrogen source. Asparagine in addition to being an amino acid is also a source of nitrogen. Sodium propionate is used as a substrate in anaerobic fermentation. Dipotassium phosphate provides the buffering system. The sulphates serve as source of sulphur and metallic ions. Glycerol serves as an additional source of carbon.

INSTRUCTION FOR USE

- Dissolve 21.70 grams in 1000 ml distilled water containing 5 ml glycerol.
- Heat to boiling to dissolve the medium completely. Dispense as desired.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium pH (at 25°C)	: Yellow to light amber coloured opalescent gel forms in Petri plates. : 8.1±0.2

INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
<i>Nocardia asteroides</i>	19427	50-100	Good-luxuriant	>=50%	35-37°C	40-72 Hours
<i>Escherichia coli</i>	25922	>=10 ⁴	Inhibited	0%	35-37°C	40-72 Hours
<i>Streptomyces albus subsp albus</i>	3004	50-100	Good-luxuriant	>=50%	35-37°C	40-72 Hours
<i>Streptomyces lavendulae</i>	19247	50-100	Good-luxuriant	>=50%	35-37°C	40-72 Hours

PACKAGING:

In pack size of 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

- Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone.
- Adams B. A., 1929, Water and Water Eng., 31:327.
- Eaton A. D., Clesceri L. S. and Greenberg A. W., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C.
- Lechevalier H. A., 1975, Environ. Protection Technol. Ser., EPA-600/ 2-75-031, U. S. Environmental Protection Agency, Cincinnati, Ohio.
- Lechevalier M. P., and Lechevalier H. A., 1974, Int. J. Syst.Bacteriol., 24:278.
- Olsen, 1960, Personal Communication.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

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

***For Lab Use Only**
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