



## PRODUCT SPECIFICATION SHEET

### Actinomyces Agar (DM560)

#### Intended Use

Actinomyces Agar (DM560) is recommended for cultivating and maintaining anaerobic *Actinomyces* species.

#### Product Summary and Explanation

*Actinomyces* are gram-positive bacteria, acid-fast cells, 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.<sup>(1)</sup> Although some genera are important to human medicine, most of the actinomycetes are part of the indigenous flora of soil, water and vegetation. *Actinomyces* development leads to the formation of volatile metabolites.<sup>(2)</sup> *Actinomyces* may impart a musty odor to water or a muddy flavor to fish.<sup>(3)</sup> *Actinomyces* can cause massive growths which will form a thick foam in the activated sludge process, causing a disruption in wastewater treatment.<sup>(4,5)</sup> Actinomyces Agar/Broth is further modified and is recommended for the cultivation and maintenance of anaerobic *Actinomyces* species.<sup>(6)</sup>

#### Principles of the Procedure

Actinomyces Agar contains beef heart infusion, tryptose, casein enzymic hydrolysate, starch serves as sources of carbon, nitrogen, sulphur and other growth factors. Yeast extract provides vitamins and dextrose is an energy source. The metallic salts provide essential electrolytes and minerals.

#### Formula / Liter

Ingredients	Gms / Liter
Beef heart infusion, solids	10.00
Tryptose	10.00
Casein enzymic hydrolysate	4.00
Yeast extract	5.00
Dextrose	5.00
L-Cysteine hydrochloride	1.00
Starch, soluble	1.00
Sodium chloride	5.00
Monopotassium phosphate	15.00
Ammonium sulphate	1.00
Magnesium sulphate	0.20
Calcium chloride	0.02
Agar	20.00
Final pH: 6.9 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

#### Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

#### Directions

1. Suspend 77.22 grams of the medium in one liter of distilled water.





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- Heat to boiling, to dissolve the medium completely.
- Distribute into tubes or flasks.
- Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.

### Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Yellow to light amber coloured clear to slightly opalescent gel forms in Petri plates
Reaction of 7.72% Solution	pH : 6.9 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 2.0% agar gel

**Expected Cultural Response** : Cultural characteristics observed after an incubation at 25-30°C for 40-72 hours (\*-incubated anaerobically)

Sr. No.	Organisms	Results to be achieved
		Growth
1.	<i>*Actinomyces israelii ATCC 10049</i>	good-luxuriant
2.	<i>Streptomyces achromogenes ATCC 12767</i>	good-luxuriant
3.	<i>Streptomyces albus subsp albus ATCC 3004</i>	good-luxuriant
4.	<i>Streptomyces lavendulae ATCC 8664</i>	good-luxuriant
5.	<i>*Actinomyces bovis ATCC 13683</i>	good-luxuriant

The organisms listed are the minimum that should be used for quality control testing.

### Test Procedure

Refer appropriate references for specific test procedures.

### Results

Refer appropriate references and test procedures for interpretation of results.

### Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

### Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

### Limitations of the Procedure

- For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
- Consult appropriate texts for detailed information and recommended procedures.





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### Packaging

Product Name : Actinomyces Agar

Product Code : DM560

Available Pack sizes : 500gm

### References

1. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14<sup>th</sup> Edition, Churchill Livingstone.
2. Adams B. A., 1929, Water and Water Eng., 31:327.
3. Eaton A. D., Clesceri L. S. and Greenberg A. W., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21<sup>st</sup> Ed., APHA, Washington, D.C.
4. Lechevalier H. A., 1975, Environ. Protection Technol. Ser., EPA-600/ 2-75-031, U. S. Environmental Protection Agency, Cincinnati, Ohio.
5. Lechevalier M. P., and Lechevalier H. A., 1974, Int. J. Syst.Bacteriol., 24:278.
6. Ajello L., Georg L. K., Kaplan W. and Kaufman L., 1963, CDC Lab Manual Med. Mycology, PHS Publication No. 994, CDC, Washington D.C..

### Further Information

For further information please contact your local MICROMASTER Representative.



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