

PRODUCT SPECIFICATION SHEET

Amies Transport Medium w/ Charcoal (DM010)

Intended Use

Amies Transport Medium w/ Charcoal (DM010) is recommended for transportation and preservation of microbiological specimens.

Product Summary and Explanation

Transport media are described as chemically defined, semisolid, non-nutritive, phosphate buffered media that provide a reduced environment. Transport media should be able to hamper self-destructive enzymatic reactions within the cells and in addition, must inhibit toxic oxidation reactions. These media are formulated to retain the viability of microorganisms without significant increase in growth. Amies⁽¹⁾ modified the formulation of Stuart's Transport Medium^(2, 3, 4) by replacing glycerophosphate with an inorganic phosphate buffer and adding charcoal to the medium. This modified medium yielded a higher percentage of positive cultures than the transport medium of Stuart. Transport Medium Amies is recommended for throat, vaginal and wound samples. Amies media are especially suited for specimens containing *Neisseria gonorrhoeae*.

Principles of the Procedure

Amies Transport Medium w/ Charcoal provides a reduced environment due to the presence of sodium thioglycollate and small amount of agar. Charcoal helps to neutralize materials that are toxic to sensitive pathogens like *Neisseria gonorrhoeae*. The medium contains potassium chloride, calcium chloride, magnesium chloride and sodium chloride which provide essential ions that help maintain osmotic balance while controlling permeability of bacterial cells. Monopotassium phosphate and disodium phosphate provide buffering capabilities.

Formula / Liter

Ingredients	Gms / Liter
Sodium chloride	3.00
Potassium chloride	0.20
Calcium chloride	0.10
Magnesium chloride	0.10
Monopotassium phosphate	0.02
Disodium phosphate	1.15
Sodium thioglycollate	1.00
Charcoal	10.00
Agar	4.00
Final pH: 7.2 ± 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 19.75 grams of the medium in one liter of distilled water.
2. Heat if necessary, to dissolve the medium completely.
3. Dispense in screw cap bottles or tubes in 6 ml or desired quantity.
4. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
5. Cool in an upright position.
6. Turn the tubes several times while agar is solidifying, to maintain uniform suspension of charcoal particles.

Quality Control Specifications

Dehydrated Appearance	Grey to black homogeneous free flowing powder
Prepared Medium	Black coloured opaque gel forms in tubes as butts
Reaction of 2% Solution	pH: 7.2 ± 0.2 at 25°C
Gel Strength	Semisolid, comparable with 0.4% Agar gel

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Expected Cultural Response: Cultural characteristics observed when subcultured on Soyabean Casein Digest Agar (DM247) after an incubation at 35-37°C for 18-24 hours.

Sr. No.	Organisms	Results to be achieved	
		Inoculum (CFU)	Growth
1.	<i>Escherichia coli</i> ATCC 25922	50 - 100	good-luxuriant
2.	<i>Klebsiella pneumonia</i> ATCC 13883	50 - 100	good-luxuriant
3.	<i>Neisseria meningitidis</i> ATCC 13090	50 - 100	good-luxuriant
4.	<i>Pseudomonas aeruginosa</i> ATCC 27853	50 - 100	good-luxuriant
5.	<i>Salmonella Typhi</i> ATCC 6539	50 - 100	good-luxuriant
6.	<i>Shigella flexneri</i> ATCC 12022	50 - 100	good-luxuriant
7.	<i>Staphylococcus aureus</i> ATCC 25923	50 - 100	good-luxuriant
8.	<i>Vibrio cholerae</i> ATCC 15748	50 - 100	good-luxuriant

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

Test Procedure

1. Refer to appropriate references for specific procedures.
2. Obtain specimen with sterile swab sterile cotton-tipped swabs or wooden sticks. Insert specimen swab(s) into the upper third of the medium in the transport container. Cut with sterile scissors or break-off the protruding portion of the swab stick.
3. Tightly screw the lid on the bottle or vial or plug the tube with cotton, due to which the swab is forced to the bottom of the medium.
4. Label the bottle or vial and send to the laboratory with minimum delay. Specimens may be refrigerated until ready for shipment. DO NOT FREEZE.
5. Submit to laboratory within 24 hours for culture and analysis.

Results

1. Refer to appropriate references and standard procedures for interpretation of results.
2. Survival of bacteria in a transport medium depends on many factors including the type and concentration of bacteria in the specimen, the formulation of the transport medium, the temperature and duration of transport and inoculation to appropriate culture media within 24 hours.
3. Optimal growth and typical morphology can only be expected following direct inoculation and appropriate cultivation.

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

1. Specimens taken from transport media will not exhibit the optimal or comparative growth as expected from direct inoculation and cultivation. These media do, however, provide an adequate degree of preservation for those specimens which cannot be forwarded immediately to the laboratory for prompt evaluation.
2. Viability of cells will diminish over time and some degree of multiplication or growth of contaminants can occur during prolonged periods of transit. This is particularly true of fecal specimens that contain substantial numbers of coliform organisms.
3. The condition of the specimen received by the laboratory for culture is a significant variable in recovery and final identification of the suspect pathogen. An unsatisfactory specimen (overgrown by contaminants, containing nonviable organisms, or having the number of pathogens greatly diminished) can lead to erroneous or inconclusive results.

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Packaging

Product Name : Amies Transport Medium w/ Charcoal

Product Code : DM010

Available Pack sizes : 100gm / 500gm

References

1. Amies C.R., 1967, Can. J. Public Health, 58:296
2. Stuart R.D., 1946, J. Path. Bact., 58:343.
3. Stuart R.D., 1959, Pub. Hlth. Rep., 74:431.
4. Stuart R.D., Toshach S.R. and Patsula T.M., 1954, Can. J. Pub. Hlth., 45:75.

Further Information

For further information please contact your local MICROMASTER Representative.



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