Amies Transport with Charcoal

Cat. 1535

For transport and maintenance of microbiological samples

Practical information

Industry: Transport media for samples

Principles and uses

AMIES TRANSPORT MEDIUM WITH CHARCOAL is used for collecting, transporting and preserving microbiological specimens. It is formulated to maintain the viability of microorganisms without significant increase in growth, being nonnutritive, phosphate buffered and semi-solid.

Amies developed his formula (1967) with charcoal upon proving that Neisseria gonorrhoeae increased its survival rate when charcoal swabs were used. Amies solved the problem of charcoal removal from the swabs by incorporating charcoal into the formulation.

In the formulation, charcoal neutralizes fatty acids that are toxic to microorganisms. The chloride salts supply essential electrolytes for transport and osmotic balance. Phosphates act as a buffer system. Sodium thioglycollate suppresses oxidative changes and provides a reduced environment.

Formula in g/L

Activated charcoal	10	Agar N° 2	7,5
Calcium chloride	0,1	Magnesium chloride anhydrous	0,1
Potassium chloride	0,2	Potassium dihydrogen phosphate	0,2
Sodium chloride	3	Sodium hydrogen phosphate	1,1
Sodium thioglicollate	1		

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 23,2 grams of the medium in one liter of distilled water .Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into tubes and sterilize in autoclave at 121 °C for 15 minutes. Maintain a homogeneous mixture of the charcoal throughout the medium by inverting the tubes as they cool.

Instructions for use

- Swab the area, ensuring to cover an adequate surface.
- Allow the swab to remain in contact with the surface for 10-30 seconds to absorb the microorganisms.
- Carefully remove the swab and immediately place it into the sterile transport medium. Seal the container properly to avoid any potential contamination.
- Send the sample to the laboratory as quickly as possible to ensure the integrity of the microorganisms.

The survival of bacteria in a transport medium depends on various factors such as bacteria type and concentration in the specimen, transport medium formulation, and transport temperature and duration. Optimal growth and typical morphology can only be expected if direct inoculation and appropriate cultivation are followed.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Black	Black	7,3 ± 0,2

Microbiological test

Incubation conditions: (22±2 ºC / 48 h) Inoculation conditions: (10.000-1.000.000 CFU)
Subculture on TSA or Blood Agar

Microorganisms	Specification
Shigella flexneri ATCC 12022	Good growth on TSA
Neisseria meningitidis ATCC 13090	Good growth on Blood Agar
Salmonella typhimurium ATCC 14028	Good growth on TSA
Streptococcus pneumoniae ATCC 6305	Good growth on Blood Agar

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

Amies C.R. (1967) "A Modified Formula for the Preparation of Stuart's Transport Medium". Can. J. Public Health 58: 296-300.
García Sánchez, J. E., Gómez-Lus Centelles, M. L., Rodríguez López, F. C., Torreblanca Gil, A., & Piédrola de Angulo, G. (1993). Recogida, transporte y conservación de muestras. Procedimientos en microbiología clínica: Recomendaciones de la Sociedad Española de Enfermedades Infecciosas y Microbiología Clínica.

Additional information

The container of this product may suffer deformation due to the high oxygen adsorption capacity of the activated charcoal contained in the formula. Delays in sending the sample will result in a gradual reduction in bacterial viability