

Agar Base Aeromonas (RYAN)

Cat. 1370

For the selective isolation of *Aeromonas hydrophila* from clinical and environmental samples when ampicillin is used as a selective supplement.

Practical information

Applications	Categories
Selective isolation	Aeromonas

Industry: Water

Principles and uses

Aeromonas Agar Base (RYAN) is based on the formulation of Ryan. It is a modification of the XLD Medium that has been designed to improve the count and isolation of *Aeromonas* in clinical and environmental samples. The medium is better than other media in the detection of *Aeromonas* in water, bottled water and food (meat, fish, etc).

Proteose peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. L-Lysine and L-Arginine provide nitrogen, sulfur and trace elements. Yeast extract is a source of vitamins, particularly the B-group. Inositol, lactose, sorbitol, and xylose are the carbohydrate substrates. Sodium thiosulfate provides sulphur, and ferric ammonium citrate is the indicator for H₂S production. H₂S positive colonies have a black center. The mixed indicators bromothymol blue and thymol blue change their color to yellow when acid is formed. Sodium chloride supplies essential electrolytes for transport and osmotic balance and Bile Salts are inhibitors of Gram-positive organisms.

Aeromonas are aquatic organisms, fresh water bacteria that were identified during the last century as responsible for infectious processes in aquatic animals: amphibians, reptilian, fish, snails, and others. *Aeromonas* also cause intestinal tract diseases. Infections are contracted frequently due to direct exposure to the water in which these microorganisms live. This medium is also used for clinical diagnoses.

Formula in g/L

Bromthymol blue	0,04	Bacteriological agar	12,5
Bile salts N° 3	3	Ferric ammonium citrate	0,8
Inositol	2,5	Lactose	1,5
L-Arginine hydrochloride	2	L-Lysine hydrochloride	3,5
Proteose peptone	5	Sodium chloride	5
Sodium thiosulfate	10,67	Sorbitol	3
Thymol blue	0,04	Xylose	3,75
Yeast extract	3		

Preparation

Suspend 28,1 grams of the medium in 500 ml of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution AVOID OVERHEATING. DO NOT AUTOCLAVE. Cool to 45-50 °C and aseptically add one vial of Ampicillin Supplement (Cat. 6052), previously reconstituted in 5 ml of sterile distilled water. Homogenize gently and dispense into Petri dishes.

Instructions for use

Membrane filtration method:

- Filter an appropriate volume of the sample through the membrane.
- Place the membrane on the surface of the agar plate, avoiding the formation of air bubbles.
- Invert the plates and incubate at 30-35 °C for 24 hours.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Greenish-blue	8,0±0,2

Microbiological test

Incubation conditions: (30-35 °C / 24 h).

Microorganisms	Specification	Characteristic reaction
Escherichia coli ATCC 25922	Inhibition	
Pseudomonas aeruginosa ATCC 27853	Good growth	Blue-green colonies
Aeromonas hydrophila ATCC 7966	Good growth	Green colonies with a black center
Pseudomonas aeruginosa ATCC 9027	Good growth	Blue green colonies

Storage

Temp. Min.: 2 °C
Temp. Max.: 25 °C

Bibliography

Ryan N. (1985) Personal communication.
Rogol M., Sechter I., Grinberg L., Gerichter Ch. B. (1992) J. Med. Microbiol. 12. 229-331 Atkinson M. (1986) Culture Vol. 7, No.2.