Furunculosis Agar

M432

Furunculosis Agar is used for detection of *Aeromonas salmonicida* by means of its brownish red pigment production.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Yeast extract	5.000
Tyrosine	1.000
Sodium chloride	2.500
Agar	15.000

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 33.5 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense in tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. DO NOT OVERHEAT. Allow the tubes to cool in slanted position.

Principle And Interpretation

Aeromonas are ubiquitous inhabitants of natural waters, both fresh and salt where they infect animals, including amphibians, reptiles and fish. In human, they are most commonly associated with infections of wounds acquired near or in water, or with diarrhoeal diseases. The fish pathogen *Aeromonas salmonicida* prefers temperature of 23°C for their growth, thus it is least likely to cause human infections. *A.salmonicida* is the causative agent of furunculosis (1), a disease of major significance in the culture of salmonid fish (2). The disease represents a serious problem to farming of Atlantic salmon and causes extensive economic losses to freshwater hatcheries and sea farms. The absence of an efficient selective medium and the poor plating efficiency of the organism in mixed cultures (3) have hampered the development of an efficient diagnostic test for *Aeromonas salmonicida* and, consequently, the control of furunculosis in salmonid culture. Furunculosis Agar is formulated as per Griffin et al (4) for detection of *Aeromonas salmonicida* (salmonids-furunculosis) on the basis of production of brownish red pigment.

The medium contains casein enzymic hydrolysate; tyrosine and yeast extract which are sources of carbon, nitrogen, vitamins and minerals. Sodium chloride provides essential ions. Brownish red pigmentation of the colonies in the medium within two to three days of incubation at 22°C is positive presumptive evidence. For the more rapid presumptive test, 0.5 ml of 1% aqueous solution of paraphenylenediamine can be applied to the colonies of a 24 hours old culture growing on the surface of the agar slants. Contact the reagent with all the growth. After application of the reagent, the tubes should be tipped and rotated to spread the reagent to cover the growth on slant, a deep purple colour is seen within 45 to 90 seconds.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm,comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Light amber coloured, clear to slightly opalescent gel forms in tubes as slants

Cultural Response

M432: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Colour of colony

Aeromonas salmonicida ATCC 33658	50-100	brownish red

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

1. Popoff M., Genus III, Aeromonas Kluyver and Van Niel, 1936, 398 AL,p. 545-548. In Krieg N. R. and Holt J. G., (Eds.), 1984, Bergeys Manual of Systematic Bacteriology, Vol. 1, Williams & Wilkins Co., Baltimore.
2. Austin B. and Austin D. A., 1987, Bacterial fish pathogens: diseasein farmed and wild fish, p. 112-117. Ellis Horwood Ltd., Chichester, United Kingdom.
3. McCarthy D. H., 1977, Soc. Appl. Bacteriol. Symp. Ser., 6:229.
4. Griffin, Snieszko and Friddle, 1953, Vet. Med., 48:280.

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