Also known as

Pigment Production Agar B; Ps Medium B; Fluorescein Agar; F Agar; Flo Agar; Pseudomonas Agar Medium for Detection of Fluorescein

Specification

Culture media for enhancing the fluorescein production by *Pseudomonas spp.* according to ISO standards.

Formula * in g/L

Meat peptone..... 10.0
Casein peptone..... 10.0
Dipotassium phosphate.....1.5
Magnesium sulfate..... 1.5
Agar.....15.0

Final pH 7,2 ±0,2 at 25 ºC
* Adjusted and /or supplemented as required to meet performance criteria

Directions

Suspend 38 g of powder in 1 L of distilled water with 10 mL of glycerol and let it soak. Heat to boiling and distribute in suitable containers. Sterilize in the autoclave at 121°C for 15 minutes. Cool by solidifying in slanted position with a long slant.

Description

F Medium was formulated by King, Ward and Raney in 1954 to enhance green fluorescent pigment (pyoverdine) production by *Pseudomonas fluorescens* and *P. aeruginosa*, in which pyocyanin production is restricted.
Green-yellowish pigments, soluble and fluorescent, define *Pseudomonas* group I according to the 9th edition of Bergey's Manual of Systematic Bacteriology, and therefore, detection of their production is critical.

Technique

Slanted tubes are inoculated with Pseudomona strains and incubated à 30-32°C for a 2-4 days period. If after this time a green-yellowish colour does not appear on the medium, the tubes should be kept under observation à room temperature for an additional period of 6-20 days before the culture can be regarded as negative. It should be noted that Pseudomonas aeruginosa and Pseudomonas putida strains obtained from water, soil or food, produce pigments slowly.
Pyoverdine is not soluble in chloroform, so the confirmation of its presence is usually done by a characteristic fluorescence verification under Wood's light (365 µm), comparing the suspected positive tube to another un-inoculated F Medium tube, which is considered as the control.

Quality control

Incubation temperature: 30 ± 1ºC **Incubation time:** 44 ± 4h

Inoculum: Pure culture is inoculated by surface streaking, according to ISO 11133:2014/Amd 1:2018 & Adm 2:2020

Microorganism	Growth	Remarks
Pseudomonas fluorescens ATCC® 13525	Good to very good	F (+)
Pseudomonas aeruginosa ATCC® 27853	Good to very good	Yellow-green
Pseudomonas aeruginosa ATCC® 9027	Good to very good	Yellow-green
Pseudomonas aeruginosa ATCC® 10145	Good to very good	Yellow-green
Burkholderia cepacia ATCC® 25608	Good to very good	Without pigment
Escherichia coli ATCC® 8739	Good	F (-)

References

· DIN 38411 Standard (1991) Parte 6: Mikrobiologischen Verfahren (Gruppe K) Nachweis von Escherichia coli und coliformen keimen (K6).
· ISO 16266 Standard (2006) Water Quality. Detection and enumeration of Ps aeruginosa. Method by membrane filtration.
. ISO 11133:2014/ Adm 1:2018/ Adm 2:2020/ Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
· ISO 22717 Standard (2015) Cosmetics - Microbiology - Detection of Pseudomonas aeuruginosa.
· KING, E.O., M.WARD & D.E. RANEY (1954) Two simple media for the demonstration of pyocyanin and fluorescein J. Lab.Clin.Med. 44:30-307.
· LENNETTE, E.H., E.W. SPAULDING & J.P. TROUANT (1974) Manual of Clinical Microbiology. 2nd ed. ASM. Washington.
· PALLERONI, N. (1984) The genus Pseudomonas, in Bergey's Manual of Systematic Bacteriology.
· USP (2008) 31th ed. <61> Microbial Limit Tests. US Pharmacopeial Convention Inc. Rockville. MD.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 ºC to 30 ºC).