

Technical Information

Nutrient MiVeg Agar for Oxidase

Product Code : VM2274

Application:- Nutrient MiVeg Agar for oxidase is a specific media used for confirmation of presence of oxidase in microorganisms in water.

Composition

Ingredients	Gms / Litre
MiVeg peptone	1.000
MiVeg extract no. 1	1.000
Sodium chloride	5.000
Agar	15.000
Final pH (at 25°C)	7.3±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Nutrient MiVeg Agar for Oxidase is prepared by using Miveg peptones in place of animal based peptones which makes the media free from BSE/TSE risk free. This medium is the modification of Nutrient Agar recommended by APHA (1) for differentiation of the coliform bacteria on the basis of presence of enzyme cytochrome oxidase. Cytochrome oxidase is a iron-containing porphyrin enzyme that participates in the electron transfer mechanisms and in the nitrate metabolic pathways of some bacteria.

It contains MiVeg peptone and MiVeg extract no.1 which supplies nitrogenous compounds, carbon, sulphur and trace ingredients. Sodium chloride maintains the osmotic balance of the medium.

Agar plates are inoculated by streaking to obtain isolated colonies. The isolated colony is used for oxidase testing on an impregnated filter paper. A dark purple colour that develops within 10 seconds is a positive oxidase test. Coliform bacteria are oxidase negative.

Methodology

Suspend 2.2 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

Quality Control

Physical Appearance

Cream to yellow coloured homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Yellow coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 2.2% w/v aqueous solution pH: 7.3 ±0.2 at 25°C

pH range

7.10-7.50

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours

Organisms (ATCC)	Growth	Oxidase
<i>Aeromonas hydrophila</i> ATCC 7966	luxuriant	positive reaction, deep purple blue

<i>Escherichia coli</i> ATCC 25922	luxuriant	colour develops within 10 seconds negative reaction
<i>Enterobacter aerogenes</i> ATCC 13048	luxuriant	negative reaction
<i>Pseudomonas aeruginosa</i> ATCC 27853	luxuriant	positive reaction, deep purple blue colour develops within 10 seconds
<i>Vibrio cholerae</i> ATCC 15748	luxuriant	positive reaction, deep purple blue colour develops within 10 seconds

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1.Greenberg A. E., Clesceri L. S. and Eaton A. D., (Eds.), 1992, Standard Methods for the Examination of Water and Wastewater, 18th Ed., APHA, Maryland.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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