Nutrient Agar for Oxidase

M1274

Intended Use:

Recommended for confirmation of presence of oxidase in microorganisms in water.

Composition**

Ingredients	g / L
Peptone	1.000
HM extract #	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
Equivalent to Meat extract

Directions

Suspend 22.0 grams in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Nutrient Agar is recommended by APHA (1) for differentiation of the coliform bacteria on the basis of presence of enzyme cytochrome oxidase. It is also recommended by ISO Committee (2) for the same. Cytochrome oxidase is a iron-containing porphyrin enzyme that participates in the electron transfer mechanisms and in the nitrate metabolic pathways of some bacteria. Although the test can be performed by flooding the agar surface of an inoculated plate with the reagent after incubation or with the help of oxidase reagent impregnated filter paper.

Peptone and HM extract provide nitrogenous compounds, carbon, sulphur and trace ingredients. Sodium chloride maintains osmotic equilibrium.

Type of specimen

Clinical and non-clinical samples, Water samples

Specimen Collection and Handling

Nutrient Agar plates are streak inoculated to obtain isolated colonies. The isolated colony is spotted on an oxidase impregnated filter paper. A dark purple colour that develops within 10 seconds is a positive oxidase test. After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic use. For professional use only. Read the label before opening the container. Wear protective gloves/ protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Well isolated colonies must be used for testing to avoid erroneous results.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Cream to yellow 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 at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Cultural Response

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

Organism	Growth	Oxidase
Aeromonas hydrophila ATCC 7966 (00063*)	luxuriant	positive reaction, deep purple blue colour develops within 10 seconds
Escherichia coli ATCC 25922 (00013*)	luxuriant	negative reaction
# *Klebsiella aerogenes* ATCC 13048 (00175*)	luxuriant	negative reaction
Pseudomonas aeruginosa ATCC 27853 (00025*)	luxuriant	positive reaction, deep purple blue colour develops within 10 seconds
Vibrio cholerae ATCC 15748	luxuriant	positive reaction, deep purple blue colour develops within 10 seconds

Key : (*) Corresponding WDCM numbers (#) Formerly known as *Enterobacter aerogenes*.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

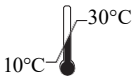
Reference

1. Lipps WC, Braun-Howland EB, Baxter TE,eds. Standard methods for the Examination of Water and Wastewater, 24th ed. Washington DC:APHA Press; 2023.
2. International Organization for Standardization (ISO), 1990, Draft, ISO/DIS 9308-1.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

Revision : 04/2024

HiMedia Laboratories Pvt. Limited,
Plot No.C-40, Road No.21Y,
MIDC, Wagle Industrial Area,
Thane (W) -400604, MS, India

IVD ***In vitro*** **diagnostic medical device**



Storage temperature

EC REP CEpartner4U, Esdoornlaan 13,
3951DB Maarn, NL
www.cepartner4u.eu

CE **CE Marking**

Do not use if package is damaged

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory,diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.