



## Nutrient HiVeg™ Agar for Oxidase

MV1274

Nutrient HiVeg™ Agar is used for confirmation of presence of oxidase in microorganisms in water.

### Composition\*\*

Ingredients	Gms / Litre
HiVeg peptone	1.000
HiVeg 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

### Directions

Suspend 22 grams in 1000 ml distilled water. 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.

### Principle And Interpretation

Nutrient HiVeg Agar for Oxidase is prepared by completely replacing animal based peptones with veg peptones. 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.

HiVeg peptone and HiVeg extract no. 1 provide nitrogenous compounds, carbon, sulphur and trace ingredients. Sodium chloride maintains osmotic equilibrium.

Nutrient HiVeg Agar plates are streak inoculated 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.

### Quality Control

#### 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 at 25°C. pH : 7.3±0.2

#### pH

7.10-7.50

#### Cultural Response

MV1274: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Growth	Oxidase
<b>Cultural Response</b> <i>Aeromonas hydrophila</i> ATCC 7966	luxuriant	positive reaction, deep purple blue colour develops within 10 seconds

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<i>Escherichia coli</i> ATCC 25922	luxuriant	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

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.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.

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