

Technical Data

Davis Supplemented Minimum Medium w/o Glucose

M1401

Intended Use:

Recommended for enrichment and titre determination of coliform bacteria. **Composition****

Ingredients	Gms / Litre
Tryptone	2.000
Yeast extract	2.000
Dipotassium hydrogen phosphate	7.000
Potassium dihydrogen phosphate	3.000
Ammonium sulphate	1.000
TriSodium citrate dihydrate	0.500
Magnesium sulphate heptahydrate	0.100
Agar	15.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 30.49 grams (the equivalent weight of dehydrated medium) in 980 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. Aseptically add 20 ml of filter sterilized glucose solution (2 gms glucose dissolved in 20 ml purified / distilled water). Mix thoroughly and pour into sterile Petri plates.

Principle And Interpretation

Lederberg (4) described the Davis formulation for Minimal Davis Broth used for enrichment and titre determination of coliform bacteria. It is used for isolating nutritional mutants of coliforms. Tryptone and yeast extract provides necessary organic carbon and nitrogen source. The medium contains citrate and phosphate as buffer salts. Ammonium sulphate is the inorganic nitrogen source. Magnesium is a cofactor for many metabolic reactions.

Type of specimen

Water samples

Specimen Collection and Handling

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (1). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

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. Further biochemical and serological tests must be carried out for further identification.

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 3.05% w/v aqueous solution at 25°C. pH : 7.0±0.2 **pH** 6.80-7.20 **Cultural Response** Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours. **Organism** Growth

# Klebsiella aerogenes ATCC 13048 (00175*)	good
Escherichia coli ATCC 25922 (00013*)	good

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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (2,3).

Reference

1. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.

2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.

3. 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.

4. Leberberg. 1950. Methods in Med. Res, 3:5.

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Disclaimer :

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