
EC BROTH

INTENDED USE

Remel EC Broth is a liquid medium recommended for use in qualitative procedures for the isolation of coliforms at 37°C and isolation of *Escherichia coli* from dairy sources and foods at 44.5°C.

SUMMARY AND EXPLANATION

Hajna and Perry developed EC Broth for detection of *E. coli* and other coliforms.¹ Perry and Hajna reported the usefulness of their medium for examination of water, milk, shellfish, and other materials for evidence of fecal contamination.² *E. coli* is an indicator organism of fecal contamination or unsanitary conditions. Previous methods were found to be inadequate for detection of *E. coli* due to the presence of injured cells which are more sensitive to additives, temperatures, and selective media.³ EC Broth is recommended by the American Public Health Association (APHA) and the AOAC International (AOAC) for detection of coliforms in water, wastewater, and foods.⁴⁻⁷

PRINCIPLE

Casein and meat peptones provide amino acids, peptides, and nitrogenous compounds necessary for bacterial growth. Lactose provides a ready source of energy, and fermentation of lactose is detected by gas production in the fermentation vial. Bile is a selective agent which inhibits some gram-positive cocci and sporeformers. Sodium chloride is a source of essential electrolytes and maintains osmotic equilibrium. Dipotassium phosphate and monopotassium phosphate are buffers which control the pH in the presence of fermentative action.

REAGENTS (CLASSICAL FORMULA)*

Casein Peptone.....	10.0 g	Dipotassium Phosphate	4.0 g
Meat Peptone.....	10.0 g	Bile	1.5 g
Lactose.....	5.0 g	Monopotassium Phosphate.....	1.5 g
Sodium Chloride.....	5.0 g	Demineralized Water	1000.0 ml

pH 6.9 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PRECAUTIONS

This product is For Laboratory Use only. It is not intended for use in the diagnosis of disease or other conditions.

PREPARATION OF DEHYDRATED CULTURE MEDIUM

1. Suspend 37 g of medium in 1000 ml of demineralized water.
2. Dispense into tubes containing fermentation vials.
3. Sterilize by autoclaving at 121°C for 15 minutes or following established laboratory procedures.

PROCEDURE

1. Consult current editions of appropriate references for the recommended procedure for sample preparation, inoculation, and testing.⁴⁻⁷
2. Incubate aerobically for the proper time duration at the appropriate temperature following established laboratory procedures.
3. Observe for gas production and/or growth. Further biochemical and/or serological testing may be required to confirm the identity of the organism. Consult appropriate references for further instructions.⁴⁻⁷

QUALITY CONTROL

Each lot number of EC Broth has been manufactured, packaged, and processed in accordance with current Good Manufacturing Practice regulations. All lot numbers have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, sample results should not be reported.

CONTROL

Escherichia coli ATCC® 25922
Enterococcus faecalis ATCC® 29212

INCUBATION

Aerobic, 18-24 h @ 42-46°C
Aerobic, 18-24 h @ 42-46°C

RESULTS

Growth w/ gas production
Inhibition (partial to complete)

BIBLIOGRAPHY

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5. Downes, F.P. and K. Ito. 2001. Compendium of Methods for the Microbiological Examination of Foods. 4th ed. APHA, Washington, D.C.
6. Wehr, H.M. and J.F. Frank. 2004. Standard Methods for the Examination of Dairy Products. 17th ed. APHA, Washington, D.C.
7. Eaton, A.D., L.S. Clesceri, E.W. Rice, and A.E. Greenberg. 2005. Standard Methods for the Examination of Water and Wastewater. 21st ed. APHA, Washington, D.C.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.

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