

Modified Scholten's Broth

Cat. 1452

Enrichment broth for bacteriophages.

Practical information

Applications	Categories
Enrichment	Bacteriophages

Industry: Molecular biology

Principles and uses

Modified Scholten's Broth is an enrichment medium for bacteriophages and is used for its detection and enumeration.

Bacteriophages are viruses that can only infect and replicate within bacteria. In many cases, these are very specific relationships. Somatic coliphages specifically infect *Escherichia coli* and in water indicate contamination by human or animal faeces or by wastewater containing such material. They provide a rapid and simple method of determining faecal pollution in environmental waters.

The ability of *Escherichia coli* O157:H7 to induce cellular damage leading to disease in humans is related to numerous virulence factors, most notably the stx gene, encoding Shiga toxin (stx) and carried by a bacteriophage. Stx is thought to be responsible for the most severe form of the infection causing the life-threatening hemorrhagic colitis (HC) and hemolytic uremic syndrome (HUS).

MSB is used in the preparation of stock, working and inoculum cultures, to rehydrate and enrich the host. The result of the infection is lysis of the cell and the production of visible plaques (clear zones).

Formula in g/L

Beef extract	12	Peptone	10
Sodium chloride	3	Yeast extract	3

Preparation

Suspend 28 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense in adequate containers and sterilize in autoclave at 121 °C for 15 minutes.

Instructions for use

- Take the inoculum with a sterile loop.
- Submerge the handle into the medium and shake gently.
- Incubate at 35±2 °C for 24 hours.

Then, add the original sample or dilutions that contains the phage into tubes of semisolid Modified Scholten's Agar (ssMSA) for later inoculate a plate of Modified Scholten's Agar (MSA).

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (35±2 °C / 24 h).

Microrganisms	Specification
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Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

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