

Nutrient Broth

Cat. 2107

For the cultivation of non-fastidious microorganisms in water, feces and other materials

Practical information

Applications	Categories
Enrichment	Mesophilic aerobic

Industry: General cultivation

Principles and uses

Nutrient Broth is used for the general cultivation of a wide variety of microorganisms.

The medium supports the growth of a great variety of microorganisms that are not very nutritionally demanding. A feature common to all selective media is that sublethally injured organisms are not generally detected and therefore a recovery step must be included in examination procedures. This is of importance, particularly in the food industry as various processes such as heat, desiccation, preservation processes, pH changes, etc. cause sublethal injuries to microorganisms. The broth is rich in nutrients and produces high resuscitation rates for sublethally injured bacteria and intense growth.

This medium is used in accordance with the official recommended procedures for the bacteriological analyses of water, milk, dairy products and feces of clinical samples, and as a base to prepare media supplemented with other nutrients. Nutrient Broth is used in many laboratory procedures as it is or with added indicators, carbohydrates, organic liquids, salts, etc.

Bacteriological Peptone and Beef extract provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Sodium chloride supplies essential electrolytes for transport and osmotic balance.

Formula in g/L

Bacteriological peptone	5	Beef extract	1
Sodium chloride	5	Yeast extract	2

Preparation

Suspend 13 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 into appropriate 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 18-24 hours.

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	6,8 ± 0,2

Microbiological test

Incubation conditions: (35±2 °C / 18-24 h)

Microrganisms	Specification
Enterococcus faecalis ATCC 19433	Good growth

Escherichia coli ATCC 25922
Staphylococcus aureus ATCC 25923
Pseudomonas aeruginosa ATCC 27853

Good growth
Good growth
Good growth

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

Walsbren, Carr, and Dunnette A. J. Clin. Path. 21:884. 1951.
American Public Health Association. 1923. Standard methods of water analysis, 5th ed. American Public Health Association, Washington, D.C.
Marshall, R.T. (ed) 1993 Standard methods for the microbiological examination of dairy products, 1 6th ed. American Public Health Association, Washington, D.C.