

Listeria Enrichment Broth With Supplements

Cat. 1077

Selective enrichment media for detecting *Listeria* spp in food and environmental samples

Practical information

Applications	Categories
Selective enrichment	Listeria

Industry: Environmental monitoring / Food

Principles and uses

Listeria Enrichment Broth with Supplements is a modification of Listeria Fraser Broth ISO Cat. 1182 used in the rapid detection of *Listeria* from food and environmental samples. The antibiotics are already included in the formula. The medium is used for the selective enrichment and enumeration of *Listeria monocytogenes* and other *Listeria* species in all food types, including milk and dairy products, and environmental samples.

Listeria monocytogenes is the bacterium that causes the infection listeriosis which is an illness very important in food safety. The control of this bacterium is very important due to its ability to grow at temperatures as low as 3°C. *Listeria* is killed by cooking and pasteurization. It can be present in raw milk and foods made from raw milk as cheeses (particularly soft-ripened varieties) or ice cream. It can also live in food processing plants and contaminate a variety of processed meats.

Soy peptone and tryptone provide nitrogen, vitamins, minerals and amino acids essential for growth. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Dextrose is the fermentable carbohydrate providing carbon and energy. Yeast extract is source of vitamins, particularly the B-group essential for bacterial growth. Potassium phosphates act as a buffer system. Nalidixic acid blocks the DNA replication of susceptible bacteria and acts against many Gram-negative bacteria. The Acriflavine and cicloheximide are the Gram-positive selective components.

Formula in g/L

Glucose	2,5	Acriflavine	0,01
Cycloheximide	0,05	Dipotassium phosphate	2,5
Nalidixic acid	0,04	Sodium chloride	5
Soy peptone	3	Tryptone	17
Yeast extract	6		

Preparation

Suspend 36 grams of 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

Inoculate and incubate at 35 °C for 48 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	Greenish-yellow	7,3 ± 0,2

Microbiological test

Microrganisms	Specification
<i>Listeria monocytogenes</i> ATCC 19112	Good growth

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

Fraser. J.A and Sperber W.H (1988) McClain D. and Lee W.H (1988)

Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.

Standard Methods for the Examination of Dairy Products, 13th Ed. APHA, 1972. American Public Health Association.

Bad Bug Book, Foodborne Pathogenic Microorganisms and Natural Toxins Handbook FDA, Second edition