PRODUCT INFORMATION

Product Type: Tubes 10ml

Cat No. TT354/M - LISTERIA FRASER BROTH

Intended Use:

Listeria Fraser Broth, is used for secondary enrichment in the procedure for the detection of Listeria monocytogenes and Listeria spp. in samples of the food chain (ISO 11290-1, ISO 11290-2).

Principles and uses:

Fraser Broth is used for secondary enrichment in the procedure for the detection *Listeria monocytogenes* and *Listeria spp*. in samples of the food chain according to ISO 11290-1.

Peptones and yeast extract provide nitrogen, carbon, vitamins particularly of the B group and trace elements for microbial growth. Phosphates are used as buffering agents to control the PH in the medium. Selectivity is provided by the presence of Nalidixic Acid with a marked antibacterial activity against primarily Gram-negative bacteria and Acriflavine which inhibits many Gram-positive bacteria. Lithium chloride and the high salt (NaCl) tolerance Listeria are used to inhibit growth of enterococci. Aesculin is hydrolysed to glucose and Aesculetin (6-7-dihydroxycoumarin). Aesculetin reacts with the iron salts in the medium, giving it brown-black color.

Specimens:

Foods, animals deeding stuffs, food chain and environmental samples.

Test Procedure:

Detection of Listeria monocytogenes and Listeria spp. according to ISO 11290-1.

Reading and Interpretation:

After incubation, typically *Listeria spp*. produces a blacking of the two enrichment broths.

Limitations

Poor growth and week esculin reaction may be seen after 40 hours incubation for some enterococci.

Since Listeria species other than Listeria monocytogenes can grow, an identification of *Listeria monocytogenes* must be confirmed by suitable tests.

Reference

1. ISO 11290-1:2017 Microbiology of the food chain – Horizontal method for the detection and enumeration of Listeria monocytogenes and Listeria spp. part 1: Detection method.
2. ISO 11290-2:2017 Microbiology of the food chain – Horizontal method for the detection and enumeration of Listeria monocytogenes and Listeria spp. part 2: Enumeration method.
3. U.S. department of health and Human services, FDA Bacteriological Analytical manual, chapter 10: Detection of Listeria monocytogenes in foods and Environmental samples, and Enumeration of Listeria monocytogenes in foods, April 202.
4. USDA-FSIS Isolation and identification of Listeria monocytogenes from red meat, poultry, Ready to eat, Siluriform (fish) and Egg products and Environmental samples. MLG 8.13, 10Q01Q2021
5. Fraser JA, Sperber WH Rapid detection of Listeria spp. in food and Environmental samples by Esculin Hydrolysis. J. Food Prot 1988 Oct 51 (10):762-765

Formulation

Enzymatic digest of animal tissue	5 g/L
Enzymatic digest of casein	5 g/L
Meat extract	5 g/L
Yeast extract	5 g/L
Sodium chloride	20 g/L
Disodium hydrogen phosphate anhydrous*	9.5 g/L
Potassium dihydrogen phosphate	1.35 /L
Aesculin	1 g/L
Lithium chloride	3 g/L
Acriflavine HCl	25 mg/L
Nalidixic Acid	20 mg/L
Ferric Ammonium Citrate	0.5 g/L

*Equivalent to 12 g of disodium hydrogen phosphate dihydrate

Storage: 2-8 °C
Final pH: 7.0 - 7.4
Appearance: Yellow – brown

Package contents: 20 Tubes
Shelf life: 2.3 months
Exp. Date: Printed on label and on the item.
Required materials not supplied: Laboratory equipment as required.

Warning and Precautions:

Warning and Precautions - For professional use only. Follow good microbiological lab practices while handling specimens and culture. Do not use Tubes if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration. Avoid freezing and overheating. The Tubes may be used / inoculated up to the expiration date and incubated for the recommended incubation times. After use and prior to discarding, specimen containers and all contaminated material, including the used culture media and contaminated culture containers, must be sterilized or incinerated by validated procedures. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.

Waste Disposal

After interpretation all items should be destroyed by standard incineration methods.

PHL-MI-243-02

Performance Testing Results

TEST	ATCC	Inoculum	Incubation Temp. (°C)	Incubation Cond.	Reaction 1	
L. monocyt + E. coli + E. faecalis	35152, 8739, 19433	100 cfu	33-37 °C	Aerobic, 48 hours	*L. monocytogenes*: Growth	Blackening
L. monocyt + E. coli + E. faecalis	13932, 8739, 19433	100 cfu	33-37 °C	Aerobic, 48 hours	*L. monocytogenes:* Growth	Blackening

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Implementation Date: 04/08/25
Version Number: 02