

LISTERIA FRASER BROTH LISTERIA HALF FRASER BROTH (1/2 CONC.)

(ISO 11290-1/2)
IVD in Class A, EU Reg. 2017/746
For in vitro diagnostic use

Liquid medium for detection and enumeration of *Listeria monocytogenes* and *Listeria* spp, according to ISO 11290.

DESCRIPTION

Listeria Half Fraser Broth (1/2 CONC.) is a liquid medium used for the primary enrichment of *L. monocytogenes* and *Listeria* spp from food, animal feeding and environmental samples in the area of food production and food handling. This medium can also be used as a diluent for the preparation of the initial suspension when performing the enumeration procedure; Listeria Fraser Broth is a liquid medium used for the secondary enrichment of *L. monocytogenes* and *Listeria* spp.

PRINCIPLE

Enzymatic digest of animal tissues, enzymatic digest of casein and meat extract provide nitrogen, vitamins, minerals and amino acids for organisms growth. Yeast extract is a source of vitamins, particularly of B-group. Sodium chloride maintains the osmotic balance of the medium and in a so high concentration inhibits enterococci. Potassium and sodium phosphates act as buffer system. Aesculin is hydrolyzed by all *Listeria* species to aesculetin. Lithium chloride is inhibitory for the accompanying flora. Acriflavine and nalidixic acid are selective agents. Ferric ions provided by ammonium iron(III) citrate will react with aesculetin producing a blackening of the medium.

Listeria Half Fraser Broth (1/2 CONC.):

COMPOSITION	g/L
Enzymatic Digest of Animal Tissues	5.0
Enzymatic Digest of Casein	5.0
Meat Extract	5.0
Yeast Extract	5.0
Sodium Chloride	20.0
Disodium Phosphate, Anhydrous	9.6
Potassium Dihydrogen Phosphate	1.35
Aesculin	1.0
Lithium Chloride	3.0
Ammonium iron(III) citrate	0.5
Nalidixic Acid	0.01
Acriflavine	0.0125

Final pH 7,2 ± 0,2 at 25°C

Listeria Fraser Broth:

COMPOSITION	g/L
Enzymatic Digest of Animal Tissues	5.0
Enzymatic Digest of Casein	5.0
Meat Extract	5.0
Yeast Extract	5.0
Sodium Chloride	20.0
Disodium Phosphate, Anhydrous	9.6
Potassium Dihydrogen Phosphate	1.35
Aesculin	1.0
Lithium Chloride	3.0
Ammonium iron(III) citrate	0.5
Nalidixic Acid	0.02
Acriflavine	0.025

Final pH 7,2 ± 0,2 at 25°C

WARNING AND PRECAUTIONS

For in vitro diagnostic use.

Observe the precautions normally taken when handling laboratory reagents.

Prepared Medium: The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous.

Safety Data Sheet is available on request for professional users.

All waste must be disposed of according to local directives.

STORAGE AND STABILITY

Prepared medium: 2-8°C

The product is stable until the expiration date indicated on the label under the recommended storage conditions.

PREPARATION

Prepared medium (bottles/tubes): Ready to use.

PROCEDURE

1. Add sample to Listeria Half Fraser Broth (1/2 CONC.) to prepare a 10-fold dilution (w/v or v/v). Skip directly to step 3 for the enumeration method described in ISO 11290-2. For the detection method in ISO 11290-1, incubate at 30 ± 1°C for 25 ± 1 h.
2. Transfer 0.1 ml of the primary enrichment culture into 10 ml of Listeria Fraser Broth. Incubate at 37 ± 1°C for 24 ± 2 h.
3. From the enrichment cultures or from the initial suspension (depending on the method used) surface inoculate onto Listeria Chromogenic Agar. Incubate at 37 ± 1°C for 24 ± 2 h and for an additional 24 ± 2 h.
4. Following the procedure given by ISO 11290-1, use the selective enrichments to inoculate a second selective medium, e.g. Listeria Palcam Agar, Listeria Oxford Agar. Refer to the relevant technical sheet for further details.

RESULTS

A blackening of Listeria Half Fraser Broth/Listeria Fraser Broth can be observed after incubation.

Blue-green colonies with or without halo on Listeria Chromogenic Agar are considered presumptive *Listeria* spp. Typical colonies of *L. monocytogenes* are surrounded by an opaque halo.

For confirmation, subculture onto appropriate non-selective agar, e.g. Blood Agar, Nutrient Agar, TSYEA. Then, carry out confirmation tests including a positive and negative control.

QUALITY CONTROL

Prepared medium: clear, light amber with bluish reflections.

LISTERIA FRASER BROTH: Typical response after incubation at 37±1°C for 48± 2h:

MICROORGANISM	GROWTH
<i>Listeria monocytogenes</i> 4b ATCC 13932	Good (Blackening)
<i>Listeria monocytogenes</i> 1/2a ATCC 35152	Good (Blackening)
<i>Escherichia coli</i> ATCC 25922	Inhibited

REFERENCES

- Fraser, J.A., Sperber, W.H. (1988) J. Food Protect. 51, 10, 762-765.
- Rapporto ISTISAN 96/35. ISSN 1123-3117. Metodi di analisi per il controllo microbiologico degli alimenti. Raccolta a cura di D.De Medici, L.Fenicia, L.Orefice e A.Stacchini.
- ISO 11290 (Draft, May 2002) Microbiology of food and animal feeding stuffs- Horizontal method for detection and enumeration of *Listeria monocytogenes*.
- ISO 11290-1:2017 Microbiology of food and animal feeding stuffs- Horizontal method for detection and enumeration of *Listeria monocytogenes*.

PRESENTATION

Packaging

REF.

Prepared medium:

LISTERIA FRASER BROTH

12 x 225 mL bottles 64526
100 x 9 mL Tubes 5058/100

LISTERIA HALF FRASER BROTH

12 x 225 mL bottles 64528
100 x 9 mL Tubes 5056/100

SYMBOLS

Read the instructions

Biological hazard

CE Mark (product complies with the requirements of Regulation (EU) 746/2017)

Temperature limitation

Use by

For in vitro diagnostic use

Manufacturer