69198 Fraser Broth, Base
(Listeria Selective Enrichment Broth, Base (acc. Fraser))

Fraser Broth Base with added supplement is recommended by ISO Committee, as a primary as well as secondary enrichment medium, for the isolation and enumeration of *Listeria monocytogenes* from food and animal feeds

Composition:

Ingredients	Grams/Litre
Meat extract	5.0
Yeast extract	5.0
Casein enzymic hydrolysate	5.0
Peptic digest of animal tissue	5.0
Sodium chloride	20.0
Disodium phosphate x $2H_2O$	12.0
Potassium dihydrogen phosphate	1.35
Esculin	1.0
Lithium chloride	3.0
Final pH 7.2 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Appearance: Yellow colored, homogeneous, free flowing powder.
Colour and Clarity: Yellow colored, clear solution with slight precipitate. With the addition of the supplements, a fluorescent yellow colored solution forms with a slight precipitate.

Directions:
Suspend 57.35 grams of dehydrated medium in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add rehydrated contents of the supplements

Selective Primary Enrichment (Half Fraser Broth): 1 vial of Fraser Selective Supplement (Cat. No. 18038) and 2 vials of Fraser Supplement (Cat. No. 90836) to 1000 ml medium base. Mix well and dispense as desired.

Selective Secondary Enrichment (Fraser Broth): 2 vials of Fraser Selective Supplement (Cat. No. 18038) and 2
vials of Fraser Supplement (Cat. No. 90836) to 1000 ml medium base. Mix well and dispense as desired.

Warning: Lithium chloride is harmful. Avoid bodily contact and inhalation of vapours. After contact with skin, wash immediately with plenty of water.

Principle and Interpretation:
Peptic digest of animal tissue, casein enzymic hydrolysate, meat extract and yeast extract provide all the essential growth nutrients, like carbon, nitrogen and vitamines. All *Listeria* species possess β-D-glucosidase, which hydrolyze esculin to esculetin which reacts with the ferric ions (from ferric ammonium citrate in the supplement) to a dark-brown to black complex. Ferric ammonium citrate enhances the growth of *Listeria monocytogenes*. Sodium chloride is for the osmotic balance, while potassium phosphates act as buffering agents with large capacity. Lithium chloride inhibits the growth of Enterococci. Nalidixic acid and acriflavin hydrochloride strongly inhibits most bacteria, excluded *Listeria*.

Cultural characteristics after 24-48 hours at 35°C

Organisms (ATCC)	Growth	Esculin Hydrolysis
Listeria monocytogenes (19111)	+++	+
Listeria monocytogenes (19112)	+++	+
Listeria monocytogenes (19117)	+++	+
Listeria monocytogenes (19118)	+++	+
Enterococcus faecalis (29212)	-	-
Escherichia coli (25922)	-	-
Staphylococcus aureus (25923)	-	-

References:

1. J.A. Fraser, W.H. Sperber, J. Food Protect., 51(10), 762-765 (1988)
2. International Organization for Standardization (ISO), Microbiology of the food chain -- Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria spp.* -- Part 1: Detection method, ISO 11290-1:2017

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.