

## Technical Data Sheet

### FRASER Listeria Ammonium Iron(III) Supplement

Ordering number: 1.00092.0010

The enrichment supplement contains ammonium iron(III) citrate.

#### Mode of Action

The ammonium iron(III) citrate promotes the growth of the *Listeria spp.* and, together with esculin (a component of the Fraser broth base), it permits the  $\beta$ -D-glucosidase detection in *Listeria spp.*

This reaction is, however, not exclusive to *Listeria spp.*, in accordance with EN ISO 11290-1 every primary and secondary enrichment in Fraser broth has to be sub-cultured on selective plating media.

#### Typical Composition

	Gram per vial	Final concentration [g/l]
Ammonium Iron(III) Citrate 250 mg	0.250	0.500

#### Preparation

Dissolve the content of each supplement vial immediately before use by adding 1 ml of sterile demineralized water.

The supplement is homogeneously distributed in the broth by carefully swirling.

**Half Fraser Broth:** To prepare half-concentrated Fraser broth using GranuCult™ Half FRASER (Demi FRASER) Broth (Base) with Antibiotics acc. ISO 11290 (article number 1.00025.0500), the content of 1 vial of FRASER Ammonium Iron(III) Citrate (article number 1.00092.0010) is evenly mixed into 500 ml of sterile Fraser broth base after it has cooled below 50 °C.

**Fraser Broth:** To prepare Fraser broth using GranuCult™ FRASER Broth (Base) acc. ISO 11290 (article number 1.10398.0500), the contents of 1 vial of FRASER Ammonium Iron(III) Citrate (article number 1.00092.0010) and 2 vials of FRASER Listeria Selective Supplement (article number 1.00093.0010) are evenly mixed into 500 ml of sterile FRASER broth base after it has cooled below 50 °C.

#### Experimental Procedure and Evaluation

Depend on the purpose for which the medium is used.

Incubate for the primary enrichment step the inoculated Half Fraser broth under aerobic conditions, e.g. acc. to EN ISO 11290-1 at 29-31 °C for 22-26 h.

Transfer 0.1 ml material from the resulting culture (regardless of its color) to the secondary enrichment culture medium, e.g. 10 ml Fraser broth, following the method given EN ISO 11290-1.

Incubate for the secondary enrichment step the inoculated Fraser broth under aerobic conditions, e.g. acc. to EN ISO 11290-1 at 36-38 °C for 46-50 h.

From the culture obtained in the primary and the secondary enrichment culture selective solid media are inoculated, see details given by EN ISO 11290-1.

### Storage

Usable up to the expiry date when stored dry and tightly closed at +15 °C to +25 °C.

### Quality Control

FRASER Listeria Ammonium Iron(III) Supplement is tested in GranuCult™ FRASER Broth (Base) acc. ISO 11290 (article number 1.10398.0500) in accordance with the current version of EN ISO 11133.

Function	Control strains	Incubation	Method of control	Criteria	Expected results
Productivity	<i>Listeria monocytogenes</i> 1/2a ATCC® 35152 + <i>Escherichia coli</i> ATCC® 25922 + <i>Enterococcus faecalis</i> ATCC® 29212	22-26 h at 29-31 °C	Qualitative	>10 colonies on Agar Listeria according to Ottaviani and Agosti	Blue-green colonies with opaque halo
	<i>Listeria monocytogenes</i> 4b ATCC® 13932 + <i>Escherichia coli</i> ATCC® 8739 + <i>Enterococcus faecalis</i> ATCC® 19433				
Selectivity	<i>Escherichia coli</i> ATCC® 8739	22-26 h at 29-31 °C	Qualitative	Total inhibition on TSA	-
	<i>Escherichia coli</i> ATCC® 25922				
	<i>Enterococcus faecalis</i> ATCC® 19433			< 100 colonies on TSA	
	<i>Enterococcus faecalis</i> ATCC® 29212				

Please refer to the actual batch related Certificate of Analysis.

## Literature

APHA (2015): Compendium of Methods for the Microbiological Examination of Foods. 5<sup>th</sup> ed. American Public Health Association, Washington, D.C.

ISO International Standardisation Organisation. Microbiology of food and animal feeding stuffs -- Horizontal method for the detection and enumeration of *Listeria monocytogenes* - Part 1: Detection method -- Amendment 1: Modification of the isolation media and the haemolysis test, and inclusion of precision data. EN ISO 11290-1:1998 + Amd 1:2004.

ISO International Standardisation Organisation. Microbiology of food, animal feed and water - Preparation, production, storage and performance testing of culture media. EN ISO 11133:2014.

## Ordering Information

Product	Cat. No.	Pack size
FRASER Ammonium Iron(III) Supplement	1.00092.0010	10 vials
GranuCult™ Half FRASER (Demi FRASER) Broth (Base) with Antibiotics acc. ISO 11290	1.00025.0500	500 g
GranuCult™ FRASER Broth (Base) acc. ISO 11290	1.10398.0500	500 g
FRASER <i>Listeria</i> Selective Supplement	1.00093.0010	10 vials

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