SampleReady® Culture Media
Instructions for Use

HALF-FRASER BROTH with FAC (G594-65)

SampleReady® GAMMA IRRADIATED SOLUBLE POUCH

USE: Half-Fraser Broth with Supplement is used for the selective enrichment of *Listeria monocytogenes*.

DESCRIPTION: Fraser Broth Base and Fraser Broth Supplement are based on the Fraser Broth formulation of Fraser and Sperber.[1] The medium is used in the rapid detection of *Listeria* from food and environmental samples. Half-Fraser Broth Base is a modification of Fraser Broth in which the nalidixic acid and acriflavine concentrations have been reduced to 10 mg/L and 12.5 mg/L respectively.[2] Peptone, beef extract, and yeast extract provide carbon and nitrogen sources and the cofactors required for good growth of *Listeria*. Sodium phosphate and potassium phosphate buffer the medium. Selectivity is provided by lithium chloride, nalidixic acid and acriflavine. The high sodium concentration of the medium inhibits growth of enterococci. All *Listeria* species hydrolyze esculin, as evidence by a blackening of the medium. This blackening results from the formation of 6,7-dihydroxycoumarin, which reacts with the ferric ions.[1] Ferric ions are added to the final medium as ferric ammonium citrate (FAC) in Fraser Broth Supplement. Half Fraser Broth is used as the primary enrichment broth in the ISO methodology[5] for the detection of *Listeria*.

FORMULA:

Proteose Peptone	5.0 g/L
Beef Extract	5.0 g/L
Meat Peptone	5.0 g/L
Casein Peptone	5.0 g/L
Sodium Chloride	20.0 g/L
Disodium Phosphate	12.0 g/L
Monopotassium Phosphate	1.35 g/L
Esculin	1.0 g/L
Nalidixic Acid	10 mg/L
Acriflavine HCl	12.5 mg/L
Ferric Ammonium Citrate	0.5 g/L
Lithium Chloride	3.0 g/L
Total	**58 g/L**

Note: Medium may be adjusted and/or supplemented as required to meet performance criteria.

Final pH: 7.2 ± 0.2 at 25°C

PHYSICAL APPEARANCE:

Dehydrated Appearance – The powder is beige, homogenous, and free-flowing encapsulated in a clear soluble film pouch.

Prepared Appearance – Medium amber, clear to slightly opalescent with precipitate.

PROCEDURE: Carefully open the Mylar bag and aseptically transfer one 65g soluble pouch to 1.125L of sterile or purified water and mix. Dissolve completely with repeated stirring or paddle blending agitation. Once dissolved, the medium is ready for testing applications. Consult reference methods for complete procedures.

EXPECTED RESULTS: Cultural response after 18-48 hours at 35°C.

Microorganism	CFU	Growth	Esculin Reaction
E. faecalis ATCC™ 29212	$10^3$2x10^3	Inhibition	-
E. coli ATCC™ 25922	$10^3$2x10^3	Inhibition	-
L. monocytogenes ATCC™ 19114	10^2-10^3	+	+
S. aureus ATCC™ 25923	$10^3$2x10^3	Inhibition	-

STORAGE: Store the sealed Mylar bag at 2-30°C in a dry environment for up to the expiration date.

LIMITATIONS: Once opened, use all pouches within the Mylar bag as soon as possible. Use prepared media within 3 hours for best results. The pouches should be discarded if there has been a change from the original color, or the encapsulated powder is not free flowing.

For laboratory use only.

SIZES AVAILABLE: G594-12.5 (225ml) G594-29 (500ml) G594-65 (1.125L). Additional pre-weigh doses available upon request.

PACKAGING: Additional configurations are available upon request.

REFERENCES:

1. Fraser J.A. and Sperber W.H. 1988. J. Food Protect. 51, No.10, 762-765.
2. McClain D. and Lee W.H. 1988. J. Assoc. Off. Anal. Chem. 71, No.3, 660-664.
3. Cowart R.E. and Foster B.G. 1985. J. Infect. Dis. 151, 721-730.
4. Partis L., Newton K., Marby J. and Wells R.J. 1994. Appl. Env. Microbiol. 60, 1693-1694.
5. Microbiology of Food and Animal Feeding Stuffs – Horizontal method for the detection and enumeration of *Listeria monocytogenes* Part 1: Detection Method BS EN ISO 11290:1 1997.

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