CM 20731 - HALF FRASER BROTH (FRASER BROTH BASE, MODIFIED)

INTENDED USE

For the selective enrichment of Listeria species from foods.

PRODUCT SUMMARY AND EXPLANATION

Fraser Broth Base, modified isbasedon the formulation by Fraser and Sperber. It is recommended for selective enrichment of Listeria species from foods.

Listeria species are widely distributed and are isolated from soil, decaying vegetable matter, sewage, water, animal feed, fresh and frozen poultry, meats, raw milk, cheese and asymptomatic human and animal carriers. Only Listeria monocytogenes from the genus Listeria; causes infections in humans. L. monocytogenes primarily causes meningitis, encephalitis or septicemia in humans. In pregnant women, Listeria monocytogenes often causes an influenza like bacteremic illness that, if untreated, may lead to ammionitis and infection of the fetus, resulting in abortion, still birth or premature birth. Contaminated foods are the primary vehicles of transmission.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	5.000
Tryptone	5.000
Yeast extract	5.000
Beef extract	5.000
Sodium chloride	20.000
Lithium chloride	3.000
Disodium phosphate	9.600
Monopotassium phosphate	1.350
Esculin	1.000
Nalidixic acid	0.010
Acriflavin	0.0125

PRINCIPLE

This mediumcontains peptone, Tryptone, yeast extract and HM Peptone B which provide essential nutrients like carbon and nitrogenous compounds including vitamins, amino acids and trace ingredients. Phosphate buffer medium while sodium chloride maintains osmotic equilibrium. Nalidixic acid and Acriflavin inhibits the growth of gram-negative and gram-positive organisms respectively except Listeria species. Listeria species hydrolyze esculin to glucose and esculetin. The latter combines with ferric ions of ferric ammonium citrate, resulting in the formation of 6-7 dihydroxycoumarin, a black brown complex. Ferric ammonium citrate also enhances the growth of L. monocytogenes. The high salt tolerance (of sodium chloride) of Listeria is used as means to inhibit the growth of Enterococci. Lithium chloride is also used to inhibit Enterococci, which also possess the ability to hydrolyze esculin.

INSTRUCTION FOR USE

Dissolve 54.97grams in 1000 ml distilled water.
Heat if necessary to dissolve the medium completely.
Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
Cool to 45-50°C and aseptically add rehydrated contents of 2 vials of Fraser Supplement.

- Mixwell and dispense as desired.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Fluorescent yellow coloured clear solution.
pH (at 25°C) : 7.2±0.2

INTERPRETATION

Culturalcharacteristics observed on addition of Fraser supplement after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Esculin Hydrolysis	Incubation Temperature	Incubation Period
Escherichia coli	25922	>=10^3	Inhibited	-	35 - 37°C	24-48 Hours
Enterococcus faecalis	29212	50-100	None-poor	-	35 - 37°C	24-48 Hours
Listeria monocytogenes	19111	50-100	Good-luxuriant	Positive reaction, blackening of medium	35 - 37°C	24-48 Hours
Listeria monocytogenes	19112	50-100	Good-luxuriant	Positive reaction, blackening of medium	35 - 37°C	24-48 Hours
Listeria monocytogenes	19117	50-100	Good-luxuriant	Positive reaction, blackening of medium	35 - 37°C	24-48 Hours
Listeria monocytogenes	19118	50-100	Good-luxuriant	Positive reaction, blackening of medium	35 - 37°C	24-48 Hours
Staphylococcus aureus subsp. aureus	25923	50-100	None-poor	-	35 - 37°C	24-48 Hours

PACKAGING:

Inpacksizeof500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for

the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

Afteruse,prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

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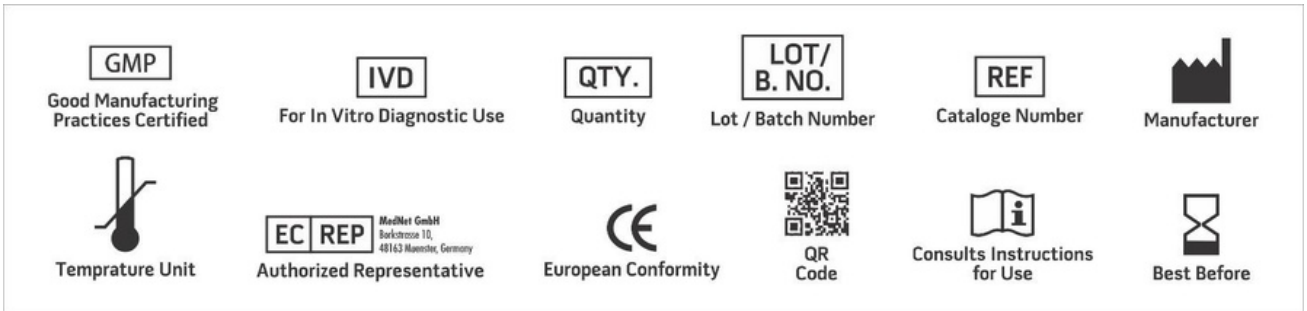

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

*For LabUse Only