

TM 770 – LYSINE IRON BROTH BASE (LYSINE IRON CYSTINE BROTH BASE)

INTENDED USE

For rapid presumptive detection of Salmonellae in food products and feed materials.

PRODUCT SUMMARY AND EXPLANATION

Lysine Iron Cystine Broth is a modification of the formula of Hoben, Aston and Peterson. They described the usefulness of this medium for detecting Salmonellae in food samples in three days, thus reducing the holding time for foods and food ingredients.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	5.000
Yeast extract	3.000
L-Lysine hydrochloride	10.000
Mannitol	5.000
Dextrose (Glucose)	1.000
Salicin	1.000
L-Cystine	0.100
Ferric ammonium citrate	0.500
Sodium thiosulphate	0.100
Neutral red	0.025

PRINCIPLE

This medium consists of Tryptone and L-Cystine which provide carbonaceous and nitrogenous compounds. Yeast extract supplies Vitamin B complex. Dextrose, mannitol and salicin are the fermentable carbohydrates. Ferric ammonium citrate and sodium thiosulphate are the indicators of hydrogen sulphide formation. Cultures that produce hydrogen sulphide cause blackening of the medium due to ferrous sulphide production. Lysine decarboxylation causes an alkaline reaction (purple colour) to give the amine cadaverine. The organisms, which do not decarboxylate lysine, produce acid butt (yellow colour). Organisms that deaminate the lysine form α -ketocarboxylic acid, which reacts with iron salt near the surface of the medium under the influence of oxygen to form reddish-brown compound.

INSTRUCTION FOR USE

- Dissolve 25.7 grams in 1000 ml purified/distilled water.
- Heat if necessary to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to room temperature and aseptically add one vial of reconstituted Novobiocin Selective Supplement.
- Mix well before dispensing in sterile tubes or flasks as desired.

QUALITY CONTROL SPECIFICATIONS



Appearance of Powder : Light yellow to pink homogeneous free flowing powder.
Appearance of prepared medium : Red coloured, clear solution which may have slight particles in tubes.
pH (at 25°C) : 6.2 ± 0.2

INTERPRETATION

Cultural characteristics observed with added Novobiocin Selective Supplement after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of medium	Colour of medium (After addition of Bromothymol blue)	H ₂ S	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	25922	50-100	Good-luxuriant	Red	Red-blue	Negative reaction	35-37°C	24-48 Hours
<i>Salmonella Typhi</i>	19430	50-100	Good-luxuriant	Yellow	Dark green-blue	Positive (blackening of the medium)	35-37°C	24-48 Hours
<i>Salmonella Enteritidis</i>	13076	50-100	Good-luxuriant	Yellow	Dark green-blue	Positive (blackening of the medium)	35-37°C	24-48 Hours
<i>Shigella flexneri</i>	12022	50-100	Good-luxuriant	Red	Red-blue	Negative reaction	35-37°C	24-48 Hours

PACKAGING:

In pack size of 100 gm and 500 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

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

REFERENCES

- Hoben, Ashton and Peterson, 1973, Applied Microbiol., 25:123.
- Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
- Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock, D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.



 GMP Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

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

***For Lab Use Only**
Revision: 08 Nov., 2019