B232	LYSINE IRON AGAR

Formula

Ingredients :	gms/lit.
Peptic digest of animal tissue	5.00
Yeast extract	3.00
Dextrose	1.00
L-Lysine	10.00
Ferric ammonium citrate	0.50
Sodium thiosulphate	0.04
Bromo cresol purple	0.02
Agar	15.00

Final pH (at 25°C) : 6.7 ± 0.2

Directions :

Suspend 34.56 gms. in 1000 ml. distilled water. Boil to dissolve the medium completely. Dispense Into tubes and sterilize by autoclaving at 15 lbs Pressure (121°C) for 15 minutes. Cool the tubes in slanted position to form slants with deep butts.

Principle :

Lysine Iron Agar contains Peptic digest of animal tissue which provides carbon and nitrogen sources required for good growth of a wide variety of organisms. Yeast Extract provides vitamins and cofactors required for growth, as well as additional sources of nitrogen and carbon. Dextrose is an energy source. L-Lysine Hydrochloride is the substrate used to detect the lysine decarboxylase and lysine deaminase enzymes. Ferric Ammonium Citrate and Sodium Thiosulfate are indicators of hydrogen sulfide production. Bromo Cresol Purple, a pH indicator, is yellow at or below pH 5.2 and purple at or above pH 6.8 Agar is a solidifying agent.

QC Tests – (I) Dehydrated Medium	
Colour :	Cream to yellow
Appearance :	Homogeneous Free Flowing powder
(II) Rehydrated medium	
pH (post autoclaving/heating) :	6.7 ± 0.2
Colour (post autoclaving/heating) :	Purple
Clarity (post autoclaving/heating) :	Clear to slightly opalescent
(III) Q.C. Test Microbiological	

Cultural characteristics observed after 18 - 24 hours at 35 -37°C.

MICROORGANISM (ATCC)	GROWTH	BUTT	SLANT	H_2S
Citrobacter freundii (8090)	Luxuriant	A	K	+
Escherichia coli (25922)	Luxuriant	K	K	-
Proteus mirabilis (25933)	Luxuriant	A	R	+
Salmonella typhimurium (14028)	Luxuriant	K	K	+
Shigella flexneri (12022)	Luxuriant	A	K	-
Salmonella arizonae (13314)	Luxuriant	K	K	+

Key : + = blacking of medium
- = no blacking of medium
R = deep red. Lysine deamination
A = acidic, yellow colour
K = alkaline, purple, no colour change

Precautions :	1. For Laboratory Use.
	2. Follow proper, established laboratory procedures in handling and disposing of infectious materials.

Limitations :	1. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.				
	2. Salmonella paratyphi A, unlike other Salmonella, does not produce lysine decarboxylase and so produces an alkaline slant and an acid butt.				
	3. H_2S – producing Proteus species do not blacken the medium. It is, therefore, suggested that Lysine Iron Agar be used in conjunction with Triple Sugar Agar or other media to confirm differentiation.				
	4. The reaction of Morganella morganii may be variable after 24 hours incubation and may require longer incubation.				
Use :	For differentiation of enteric organisms especially Salmonella and Arizona species, based on their ability to decarboxylate or deaminate lysine and to form hydrogen sulphide (H_2S)				
Storage :	Dehydrated medium- below 30°C Prepared medium– Between 2 to 8°C.				
Packing :	500 gm. bottle				
Product profile:	Reconstitution	Quantity on Preparation (500g)	pH (25°C)	Supplement	Sterilization
B232	34.56 g/l	14.46 lit	6.7 ± 0.2	NIL	121^0C/15 min