B833	SORBITOL IRON AGAR

Formula

Ingredients :	gms/lit.
Beef extract	3.00
Proteose peptone	15.00
D-sorbitol	2.00
Sodium chloride	5.00
Ferric ammonium citrate	0.50
Sodium thiosulphate	0.50
Phenol red	0.03
Agar	20.00

Final pH (at 25°C) : 7.6 ± 0.2

Directions :

Suspend 46 gms.in 1000ml. distilled water. Heat to boiling to dissolve the medium completely. Dispense in test tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Allow the tubes to cool in slanted position.

Principle :

E. coli is the most commonly isolated from clinical samples, the most prevalent facultative gram-negative rods in faeces, and causing most common urinary tract infection and both intestinal and extra-intestinal infections. Strains of E. coli that are primary intestinal pathogens of man are described in four groups namely Enterotoxigenic E. coli (ETEC), Enteroinvasive E. coli (EIEC), Verocytotoxin-producing E. coli (VTEC) and Enteropathogenic E. coli (EPEC) (2). EPEC causes infantile diarrhea.

Sorbitol Iron Agar is a differential tube medium described by Rappaport and Henig and is a modification of Kligler Iron Agar where dextrose and lactose is substituted with D-sorbitol. The pathogenic strain of E. coli is identified on the basis of inability to ferment sorbitol and hydrogen sulfide production. Proteose Peptone and beef extract offer carbon, nitrogen, vitamins and minerals required for the growth of organisms. D-Sorbitol is a fermentable carbohydrate source. Sodium chloride provides essential ions. The combination of ferric ammonium citrate and sodium thiosulphate enables the detection of hydrogen sulphide production, which is evidenced by a black colour formation. Phenol red is the pH indicator, detecting the fermentation of sorbitol and subsequent formation of acidic conditions.

Colorless colonies from Sorbitol McKonkey Agar (B753) are inoculated into Sorbitol Iron Agar by stabbing the butts and streaking the slants. After 18-24 hours, freshly isolated pathogenic strains of E. coli show neither acid nor blackening of the medium. Proteus species may or may not blacken the medium, may produce acid in the butt; and on transfer to urease test medium, will give a positive urease test. Ordinary strains of E. coli produce acid and gas on Sorbitol Iron Agar, some pathogenic strains after laboratory cultivation may develop the capacity to ferment sorbitol and produce acid. Subsequent transfer of such cultures on Kligler Iron Agar (B212) or Triple Sugar Agar (B048), Urease Test Medium will help in identification.

QC Tests –(I)Dehydrated Medium		
	Colour :	Yellow to Pink
	Appearance :	Homogeneous Free Flowing powder
(II)Rehydrated medium		
	pH (post autoclaving/heating) :	7.6 ± 0.2
	Colour (post autoclaving/heating) :	Red
	Clarity (post autoclaving/heating) :	Clear to slightly opalescent
(III)Q.C. Test Microbiological		
	Cultural characteristics observed after 18 - 24 hrs at 35- 37°C.	

	MICROORGANISM (ATCC)	GROWTH	SORBITOL	H_2S	
	Escherichia coli (25922)	Luxuriant	+	-	
	Enterobacter aerogenes (13048)	Luxuriant	+	-	
	Proteus vulgaris (13315)	Luxuriant	-	+	
	Klebsiella pneumoniae (13883)	Luxuriant	+	-	
	Shigella flexneri (12022)	Luxuriant	-	-	
	Enterococcus faecalis (29212)	Luxuriant	+	-	
	Salmonella typhimurium (14028)	Luxuriant	+	+	

Refer disclaimer Overleaf

Rev: December 2020

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.				
Use :	For cultural identification and differentiation of enteropathogenic Escheria coli which do not ferment sorbitol.				
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
B833	46g/l	10.869L	7.6 ± 0.2	NIL	121^0C / 15 minutes