B1313	XLD AGAR

Formula

Ingredients :	gms/lit.
Yeast extract	3.00
L-Lysine	5.00
Lactose	7.50
Sucrose	7.50
Xylose	3.75
Sodium chloride	5.00
Sodium deoxycholate	1.00
Sodium thiosulphate	6.80
Ferric ammonium citrate	0.80
Phenol red	0.08
Agar	12.50

Final pH (at 25°C) : 7.4 ± 0.2

Directions :

Suspend 52.9 grams in 1000 ml distilled water. Heat with frequent agitation until the medium boils. DO NOT AUTOCLAVE OR OVERHEAT. Transfer immediately to a water bath at 50°C. After cooling, pour into sterile Petri plates. It is advisable not to prepare large volumes that will require prolonged heating, thereby producing precipitate.
Note: Slight precipitation in the medium may occur, which is inheritant property of the medium, and does not affect the performance of the medium.

Principle :

Yeast extract provides sources of nitrogen and carbon, as well as vitamins and cofactors required for growth. Xylose, lactose, and sucrose (Saccharose) are fermentable carbohydrates. Xylose is fermented by most enteric organisms except Shigella and Providencia. Lysine is added to differentiate Salmonella. As xylose is exhausted, Salmonella organisms decarboxylate lysine causing reversion to alkaline conditions. Alkaline reversion by other lysine – positive organisms is prevented by excess acid production form fermentation of lactose and sucrose.
Sodium Thiosulfate and Ferric Ammonium citrate allow visualization of hydrogen sulfide production under alkaline conditions. Acidic conditions inhibit the reaction. Phenol red is an indicator. Sodium chloride maintains osmotic balance in the medium. Agar is a solidifying agent.
Sodium Deoxycholate in XLD agar inhibits growth of gram – positive organisms.

QC Tests – (I)Dehydrated Medium				
	Colour :	Light yellow to pink		
	Appearance :	Homogeneous Free Flowing powder		
(II)Rehydrated medium				
	pH (post autoclaving/heating) :	7.4 ± 0.2		
	Colour (post autoclaving/heating) :	Red		
	Clarity (post autoclaving/heating) :	Clear to very slightly opalescent		
(III)Q.C. Test Microbiological				
	Cultural characteristics observed after 18 - 72 hrs. at 35 - 37°C.			
	MICROORGANISM (ATCC)	GROWTH	COLOUR OF COLONY	
	Proteus vulgaris (13315)	Good –luxuriant	grey with black centres	
	Salmonella enteritidis (13076)	Good –luxuriant	Red with black centers	
	Salmonella paratyphi A	Good –luxuriant	Red	
	Salmonella paratyphi B	Good –luxuriant	Red with black centers	
	Salmonella typhi (6539)	Good –luxuriant	Red with black centers	
	Salmonella typhimurium (14028)	Luxuriant	Red with black centers	
	Salmonella Abony (NCTC6017)	good-luxuriant	Red with black centers	
	Shigella sonnei (25931)	fair-good	Red	
	Shigella dysenteriae (13313)	Good –luxuriant	Red	

Refer disclaimer Overleaf

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	Shigella flexneri (12022)	fair-good	Red	
	Enterobacter aerogenes (13048)	Fair	Yellow	
	Escherichia coli (25922)	Fair	Yellow	
	Escherichia coli (8739)	Fair	Yellow	
	Escherichia coli (NCTC9002)	Fair	Yellow	
	Staphylococcus aureus (25923)	inhibited	-	
	Staphylococcus aureus (8539)	inhibited	-	
	Enterococcus faecalis (29212)	inhibited	-	

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. Non-enterics like Pseudomonas and Providencia may exhibit red colonies.				
	3. S. paratyphi A, S. choleraesuis, S. pullorum and S. gallinarum may form red colonies without black centers, thus resembling Shigella species.				
	4. Some Proteus strains will give black – centered colonies on XLD Agar.				
	5.Slight precipitation in the medium may occur,which is inheritant property of the medium,and does not affect the performance of the medium.				
Use :	For selective isolation and enumeration of Salmonella typhi and other Salmonella species.				
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
B1313	52.9 g/l	9.446 L	7.4 ± 0.2	Nil	Do not autoclave/ over heat. Boil medium to dissolve w/frequent agitation