

TECHNICAL SHEET

B310	SS AGAR (Salmonella Shigella agar)		
Formula			
Ingredients :		gms/lit.	
Peptic digest of animal tissue	5.00		
Beef extract	5.00		
Lactose	10.00		
Bile salt mixture	8.50		
Sodium citrate	10.00		
Sodium thiosulphate	8.50		
Ferric citrate	1.00		
Brilliant green	0.00033		
Neutral red	0.025		
Agar	15.00		
Final pH (at 25°C) :		7.0 ± 0.2	
Directions :			
Suspend 63.02 grams in 1000 ml distilled water. Boil with frequent agitation to dissolve the medium completely. DO NOT AUTOCLAVE OR OVERHEAT. Overheating may destroy selectivity of the medium. Cool to about 50°C. Mix and pour into sterile Petri plates.			
Principle :			
Peptic digest of animal tissue and Beef extract provides nitrogen and carbon source, long chain amino acids, vitamins and essential growth nutrients. Lactose is the fermentable carbohydrate. Brilliant green, bile salts and thiosulphate selectively inhibit gram-positive and coliform organisms. Sodium thiosulphate is reduced by certain species of enteric organisms to sulphite and H ₂ S gas. Production of H ₂ S gas is detected as an insoluble black precipitate of ferrous sulphide, formed upon reaction of H ₂ S with ferric ions or ferric citrate, indicated in the centre of the colonies. Lactose is the carbohydrate present in SS Agar. Neutral red and brilliant green are present as pH indicators. On fermentation of lactose by few lactose-fermenting normal intestinal flora, acid is produced which is indicated by change of colour from yellow to red by the pH indicator-neutral red. Thus these organisms grow as red pigmented colonies. Lactose non-fermenting organisms grow as translucent colourless colonies with or without black centres. Growth of Salmonella species appears as colourless colonies with black centres resulting from H ₂ S production. Shigella species also grow as colourless colonies which do not produce H ₂ S.			
QC Tests – (I) Dehydrated Medium			
Colour :	Light yellow to pink		
Appearance :	Homogeneous Free Flowing powder		
(II) Rehydrated medium			
pH (post autoclaving/heating) :	7.0 ± 0.2		
Colour (post autoclaving/heating) :	Reddish orange		
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	COLOUR OF COLONY	
Salmonella typhimurium (14028)	Good-luxuriant	Colourless with black center	
Salmonella typhi (6539)	Good-luxuriant	Colourless with black center	
Salmonella enteritidis (13076)	Good-luxuriant	Colourless with black center	
Shigella flexneri (12022)	Good	Colourless	
Escherichia coli (25922)	fair	pink with bile precipitate	
Enterobacter aerogenes (13048)	fair	Cream pink	
Proteus mirabilis (25933)	fair-good	Colourless, may have black center	
Enterococcus faecalis (29212)	None to poor	Colourless	

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Precautions :	1. For Laboratory Use.				
	2. Follow proper, established laboratory procedures in handling and disposing of infectious materials.				
	3. IRRITANT. Irritating to eyes, respiratory system and skin. Avoid contact with skin and eyes. Do not breathe dust. Wear suitable protective clothing. Keep container tightly closed.				
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. SS Agar is a highly selective medium. For this reaction, it is not recommended as the sole medium for primary isolation of Shigella. Some strains of Shigella may not grow.				
	3. A few nonpathogenic organisms may grow on SS Agar. These organisms can be differentiated by their ability to ferment lactose.				
Use:	For differential and selective isolation of Salmonella and shigella species from pathological specimens, suspected foodstuffs etc.				
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
B310	63.02g/l	7.933 L	7.0 ± 0.2	NIL	DO NOT AUTOCLAVE OR OVERHEATING