

TECHNICAL SHEET

B913		ACETATE DIFFERENTIAL AGAR				
Formula						
Ingredients :		gms/lit.				
Sodium acetate	2.00					
Magnesium sulphate	0.10					
Sodium chloride	5.00					
Monoammonium phosphate	1.00					
Dipotassium phosphate	1.00					
Bromothymol blue	0.08					
Agar	20.00					
Final pH (at 25°C) : 6.7 ± 0.2						
Directions :						
Suspend 29.18 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Distribute in tubes in sufficient amounts to give butt and slant. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Allow the tubes to cool in a slanted position.						
Principle :						
Organic acids have been used widely as an aid in the differentiation of Enterobacteriaceae, usually in formulae that contained organic nitrogen sources. Most bacteria, however, can use citrate and acetate in the presence of organic nitrogen. The differentiation of groups is based on the ability or failure of the test culture to utilize acetate in a medium devoid of trace organic nitrogen. This medium contains sodium acetate as the sole source of nitrogen. Majority of E.coli and closely related organisms grow well within 24-48 hours but some strains grow very slowly and a few strains are unable to utilize acetate as a sole carbon source. Acetate utilization is indicated by formation of blue colour, which is due to the utilization of sodium acetate and subsequent formation of an alkaline reaction detected by the presence of bromothymol blue indicator. Some strains of E.coli utilize acetate slowly or not at all and therefore may produce a false negative reaction. Sodium acetate is utilized as a sole source of carbon by some serotypes of S.flexneri such as Shigella flexneri. Magnesium sulphate is essential ion, sodium chloride maintains osmotic equilibrium and phosphates act as buffers.						
QC Tests – (I) Dehydrated Medium						
Colour :	Cream to greenish yellow					
Appearance :	Homogeneous Free Flowing powder					
(II) Rehydrated medium						
pH (post autoclaving/heating) :	6.7 ± 0.2					
Colour (post autoclaving/heating) :	Emerald green					
Clarity (post autoclaving/heating) :	Clear to slightly opalescent					
(III) Q.C. Test Microbiological						
Cultural characteristics observed after incubation at 25-30°C for upto 1-7 days.						
MICROORGANISM (ATCC)	GROWTH	ACETATE UTILIZATION				
Citrobacter freundii (8090)	Good –luxuriant	positive reaction, blue colour				
Enterobacter cloacae (23355)	Good –luxuriant	positive reaction, blue colour				
Escherichia coli (25922)	Good –luxuriant	positive reaction, blue colour				
Klebsiella pneumoniae (13883)	Good –luxuriant	positive reaction, blue colour				
Salmonella arizonae (13314)	Good –luxuriant	positive reaction, blue colour				
Salmonella typhi (19430)	Poor	negative reaction, no change, medium remains green				
Shigella sonnei (25931)	None-poor	negative reaction, no change, medium remains green				
Proteus vulgaris (13315)	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.						
Use :						
For the differentiation of Shigella from Escherichia coli.						
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
B913		29.18 g/l	17.13 L	6.7 ± 0.2	Nil	121°C /15 min.

Disclaimer:

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related BIOMARKLABORATORIES publications.

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