

TECHNICAL SHEET

BW484	Decarboxylase test medium base (Falkow)		
Formula			
Ingredients:		gms/lit.	
Peptic digest of animal tissue	5.00		
Yeast extract	3.00		
Dextrose	1.00		
Bromo cresol purple	0.020		
#- Equivalent to Beef extract			
Final pH (at 25°C) :6.7± 0.2			
Directions:			
Suspend 9.02 grams in 1000 ml distilled water. Heat, if necessary to dissolve the medium completely. Divide into four equal parts. One part is tubed without addition of any amino acid. To the remaining three parts, add separately L-lysine hydrochloride, L-arginine hydrochloride and L-ornithine hydrochloride to a final concentration of 0.5%. Dispense in 3-4 ml quantities in screw capped tubes and sterilize by autoclaving at 10 lbs pressure (115°C) for 20 minutes. To avoid false alkalization at the surface of medium it is recommended to add liquid paraffin to a height of about 5mm before sterilization.			
Principle:			
Decarboxylase Test Medium Base is used for differentiating bacteria on their ability to decarboxylate the amino acids. First practical application of amino acid decarboxylase test was reported by Moeller for distinguishing various microorganisms. Moellers work was based on the experiments done by Gale and Gale and Epps on bacterial amino acid decarboxylases. Moeller observed that production of lysine, arginine, ornithine decarboxylase by various members of Enterobacteriaceae offered an important parameter to other biochemical tests for differentiating bacteria within closely related groups. Further, to differentiate Salmonella arizonae from Citrobacter, Calquist developed a medium utilizing the lysine decarboxylase reaction. Later on Falkow was the one who emphasized and developed the lysine decarboxylase medium for differentiating Salmonellae and Shigellae by the valid and reliable results. This medium is recommended by BIS for detection of dihydrolase and decarboxylase activity of Vibrio cholerae and other vibrios.			
Dextrose is fermented by the enteric bacteria resulting in acidic pH. Bacteria which produce lysine or ornithine or arginine decarboxylase will produce alkaline products and increase the pH. The resulting reaction after 24-96 hours will indicate an alkaline reaction seen as purple colour for decarboxylase producing bacteria and an acid pH (yellow) by the bacteria not producing decarboxylase. Inoculated tubes must be protected from air (by overlaying the medium with sterile mineral oil) to avoid false alkalization at the surface of the medium. Control tubes of basal media should be inoculated.			
Biochemical testing should be attempted on pure culture isolation only and subsequent to differential determinations. The decarboxylase reactions can be considered indicative of a given genus or species but conclusive and final identification of these organisms cannot be made solely on the basis of the decarboxylase reactions.			
QC Tests - (I)Dehydrated Medium			
Colour :	Yellow to greenish 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		
(III)Q.C. Test Microbiological			
Cultural characteristics observed at 35 - 37°C for upto 4 days.			
MICROORGANISM (ATCC)	Lysine Decarboxylation	Arginine decarboxylation	OrnithineDecarboxylation
Escherichia coli (25922)	variable reaction	variable reaction	variable reaction
Pseudomonas aeruginosa (27853)	negative reaction, yellow colour	positive reaction, purple colour	negative reaction, yellow colour
Enterobacter aerogenes (13048)	positive reaction, purple colour	negative reaction, yellow colour	positive reaction, purple colour
Proteus vulgaris (13315)	negative reaction, yellow colour	negative reaction, yellow colour	negative reaction, yellow colour
Salmonella Typhi (6539)	positive reaction, purple colour	Delayed positive reaction or negative reaction, yellow	negative reaction, yellow colour
Shigella flexneri (12022)	negative reaction, yellow colour	Delayed positive reaction or negative reaction, yellow	negative reaction, yellow colour
Serratia marcescens (8100)	positive reaction, purple colour	negative reaction, yellow colour	positive reaction, purple colour
Vibrio cholerae (15748)	negative	positive reaction,	positive reaction, purple colour

	reaction,yellow colour	purple colour	
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Refer disclaimer Overleafpage 01 of 02

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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:	Decarboxylase Test Medium Base (Falkow) is used for testing amino acid decarboxylase activity				
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
	B550	9.02g/l	55.43L	6.7 ± 0.2	NIL

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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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