## BIOMARK Laboratories-INDIA www.biomarklabs.com TECHNICAL SHEET

FormulaIngredients:gms/lit.Peptic digest of animal tissue $10.00$ Casein enzymic hydrolysate $10.00$ Yeast extract $3.00$ Meat Extract B# $3.00$ Lactose $10.00$ Sucrose $10.00$ Dextrose $1.00$ Sodium chloride $5.00$ Ferrous sulphate $0.20$ Sodium thiosulphate $0.30$ Phenol red $0.024$ Agar $12.00$ #- Equivalent to Beef extractFinal pH (at 25°C) : $7.4 \pm 0.2$ Directions:Suspend 64.52 grams in 1000 ml distilled water. Heat to boiling to dissolve the medic completely. Mix well and distribute into test tubes. Sterilize by autoclaving at 15 lbs pres $(121°C)$ for 15 minutes. Allow the medium to set in sloned form with a but 1 inch long.							
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Principle:							
Beef extract, Yeast extract, Peptic digest of animal tissue and Casein enzyme hydrolysate provide nitrogen, vitamins, and minerals. Triple sugar iron agar contains three carbohydrates (dextrose, lactose and sucrose).							
When these carbohydrates are fermented, the resulting production of acid is detected by the phenol red							
indicator. The colour changes that result are yellow for acid production and red for alkalinization. So							
thiosulfate is reduced to hydrogen sulfide. Hydrogen sulfide then reacts with an iron salt yielding the typical							
black iron sulfide. Sodium chloride maintains the osmotic balance of the medium. Agar is a solidifying agent.							
QC Tests – (I)Dehydrated Medium							
Colour: Light yellow to pink							
Appearance: Homogeneous Free Flowing powder							
(II)Rehydrated medium							
PH (post autoclaving/heating): $7.4 \pm 0.2$							
Colour (post autoclaving/heating): Pinkish red							
Clarity (post autoclaving/heating): Clear to slightly opalescent							
(III)Q.C. Test Microbiological							
Cultural characteristics observed after18 – 48 hrs. at 35- 37°C.							
MICROORGANISM (ATCC) GROWTH SLANT BUTT GAS H							
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Refer disclaimer Overleaf

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Key · A = acidic	vellow K = alka	line no change				
Key : A = acidic, yellow K = alkaline, no change + = blackening ( $H_2S$ ), positive reaction						
- = no re						
Precautions :	1. For Laboratory Use.					
	2. Follow proper, established laboratory procedures in handling and disposing c 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.					
	<ol> <li>Hydrogen sulfide production may be evident on Kligler Iron Agar but negative on Triple Sugar Iron Agar. Studies by Bulmash and Fulton showed that the utilization of sucrose could suppress the enzymatic mechanisms responsible for H<sub>2</sub>S production. Padron and Dockstader found that not all H<sub>2</sub>S – positive Salmonella are positive on TSI.</li> <li>Sucrose is added to TSI to eliminate some sucrose – fermenting non – lactose fermenters such as Proteus and Citrobacter spp.</li> <li>Further biochemical tests and serological typing must be performed for definite identification and confirmation of organisms.</li> <li>Do not use an inoculating loop to inoculate a tube of Triple Sugar Iron Agar. While stabbing the butt, mechanical splitting of the medium occurs, causing a false positive result for gas production.</li> </ol>					
	6. A pure culture is essential when inoculating Triple Sugar Iron Agar. If inoculated with a mixed culture, irregular observations may occur.					
	7. Tubes should be incubated with caps loosened. This allows a free exchange air, which is necessary to enhance the alkaline condition on the slant.					
Use :	For identification of gram-negative enteric bacilli on the basis of dextrose, lactose, sucrose fermentation and hydrogen sulphide production.					
Storage :	Dehydrated medium- below 30°C Prepared medium- Between 2 to 8°C.					
Packing :	500 gm. bottle					
Product profile:	Reconstitution	Quantity on Preparation (500g)	рН (25°С)	Supplement	Steriliz	ation
B048	64.52g/l	7.749 L	7.4 ± 0.2	Nil	121ºC /15	5 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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