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B1407	TRIPLE SUGAR IRON AGAR (TS	I)				
Formula						
Ingredients:	gms/lit.					
SO 6579-1:2017 ISO21567:2004		B1407- TRIPLE SUGAR IRON AGAR (TSI)				
Ingredients	g / L	Ingredients	g / L			
Peptone	20.00	Peptone	20.00			
Yeast extract	3.00	Yeast extract	3.00			
Meat extract B #	3.00	Meat extract B	3.00			
Lactose	10.00	Lactose	10.00			
Sucrose	10.00	Sucrose	10.00			
Dextrose	1.00	Dextrose	1.00			
Sodium chloride	5.00	Sodium chloride	5.00			
Iron (III)Ammonium citrate	0.30	Iron (III)Ammonium citrate	0.30			
Sodium thiosulphate	0.30	Sodium thiosulphate	0.30			
Phenol red	0.024	Phenol red	0.024			
Agar	9-18	Agar	12.00			
pH after sterilization( at 2	5°C) 7.4±0.2	pH after sterilization( at 25°C)	$7.4{\pm}0.2$			

Final pH (at 25°C) :  $7.4 \pm 0.2$ 

## Directions :

Suspend 64.62 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Mix well and distribute into test tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Allow the medium to set in sloped form with a butt of depth about 2.5cm-5cm.

## Principle :

Beef extract, Yeast extract, Peptone 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 alkalization. Sodium 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. Phenol red is the pH indicator

QC Tests – (I)Dehydrated Medium							
Colour :	I	Light yellow to pink					
Appearance :			Homogeneous Free Flowing powder				
(II)Rehydrated medium							
PH (post autoclaving/heating) :		7.4 ± 0.2					
Colour (post autoclaving/heating) :	P	Pinkish red					
Clarity (post autoclaving/heating) :	C	Clear to slightly opalescent					
(III)Q.C. Test Microbiological							
Cultural characteristics observed after an	n incubat	ation at 35-37°C for 18-24 hours.					
MICROORGANISM (ATCC)	GROV	NTH	SLANT	BUTT	GAS	$H_2S$	
Citrobacter freundii (8090)	Luxuria	ant	А	А	+	+	
Enterobacter aerogenes (13048)	Luxuria	ant	А	А	+	-	
Escherichia coli (25922)	Luxuriant		А	А	+	-	
Klebsiella pneumoniae (13883)	Luxuriant		А	А	+	-	
Proteus vulgaris (13315)	Luxuriant		Κ	А	-	+	
Salmonella paratyphi ATCC (9150)	Luxuriant		Κ	А	+	-	
Salmonella typhi ( 6539 )	Luxuriant		K	Α	-	+	
Salmonella typhimurium (14028)	Luxuriant		K	А	+	+	

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	Shigella flexneri (12	2022)	Luxuriant	K	Α	-	-	
	Klebsiella pneumonia	ae (10031)	Luxuriant	А	Α	+	-	
	Escherichia coli (873	9) ]	Luxuriant	А	А	+	-	
	Escherichia coli (NC	TC 9002)	Luxuriant	А	А	+	-	
	Key : A = acidic, yellow	v K = alkaline, no cha	nge					
	+ = blackening (H <sub>2</sub> S), positive reaction - = no reaction.							
Precautions :	1. For Laboratory Us	se.						
	2. Follow proper, established laboratory procedures in handling and disposing of infectious materials.							
Limitations :	1. Some member	ers of the Enterobact	eriaceae and H	I2S produ	ucing Saln	nonella m	ay not be H2S positive	
	on TSI Agar							
	<ol> <li>Some bacteria may show H2S production on Kligler Iron Agar but not on TSI Agar. This can happen because utilization of sucrose in TSI Agar suppresses the enzymic pathway that result in H2S production.</li> <li>5. 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> <li>6. A pure culture is essential when inoculating Triple Sugar Iron Agar. If inoculated with a mixed culture, irregular observations may occur.</li> </ol>							
	necessary to	enhance the alkaline	condition on t	the slant.	.5 unows c		mange of an, which is	
USE:	Recommended for identification of members of Enterobacteriaceae especially Salmonella species. The composition and performance criteria of this medium are as per the specifications laid down in ISO 6579-							
	1:2017/Amd.1:2020(E), ISO 21567:2004, APHA.							
Storage :	Dehydrated medium- below 30°C Prepared mediums- Between 2 to 8°C.							
Packing :	500 gm. bottle							
<b>Product profile:</b>	Reconstitution	Quantity on	pH (25°C)		Suppleme	nt	Sterilization	
		Preparation (500g)						
B1407	64.62 g/l	7.737L	$7.4 \pm 0.2$		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. The information contained in this publication is based on our in-house studies and market performance and is to the best of our

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