

LEIFSON DEOXYCHOLATE AGAR, MODIFIED
TM 1008

For selective isolation and differentiation of *Salmonella* and *Shigella*

Composition

Ingredients	Gms/Ltr.
Agar	15.00
Lactose	10.00
Sodium citrate	5.00
Sodium thiosulphate	5.00
Peptic digest of animal tissue	5.00
Beef extract	5.00
Sodium deoxycholate	2.50
Ammonium ferric citrate	1.0
Neutral red	0.025

* Dehydrated powder store, hygroscopic in nature, place in a dry, in tightly - sealed containers below 25°C and protect from direct Sunlight.

Instructions for Use

Dissolve 48.50gms in 1000ml distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. **DO NOT AUTOCLAVE** and **do not remelt solidified agar**. Cool to 40°C and pour into sterile Petri plates.

Appearance: Red to orange colour, clear to slightly opalescent gel
pH (at 25°C): 7.0 ± 0.2

Principle

LEIFSON DEOXYCHOLATE AGAR, MODIFIED was first described by Leifson for isolation of intestinal pathogens and the enumeration of pathogens in milk and water samples. Later the modified medium is to be used for screening *Salmonella* spp. and *Shigella* spp. Medium contains Beef extract and Peptic digest of animal tissue provides the nitrogen, amino acids, vitamins and other essential growth nutrients. Agar is a solidifying agent. Sodium deoxycholate, Ammonium ferric citrate and Sodium citrate completely suppress the gram - positive microorganisms and inhibit the coliforms more or less. Sodium thiosulphate is reduced into sulphide, indicated by black centered colonies, due to the formation of iron sulphide. Neutral red is a pH indicator which changes to a red colour below pH 6.8. Due to the fermentation of lactose and the attendant acid production the colour changes to red. Non fermenters species grow as colourless colonies. Differentiation of enteric bacilli is based on fermentation of Lactose.

Interpretation

Cultural characteristics observed after inoculating (10^2 - 10^3 CFU / ml), on incubation at $37 \pm 2^\circ\text{C}$ for 24 - 48 hours.

Microorganisms	ATCC	Inoculum (CFU/ml)	Growth	Appearance of colony
<i>Escherichia coli</i>	25922	10^3	Fair to good	Pink with zone of ppt.
<i>Salmonella typhi</i>	6539	10^3	Good	Colourless to tan

PRODUCT DATA SHEET

<i>Shigella sonnei</i>	25931	10 ²	Good	Colourless to pink
<i>Shigella flexneri</i>	12022	10 ²	Good	Colourless to pink

References

1. LEIFSON, E.: New culture media based on sodium deoxycholate for the isolation of intestinal pathogens and for the enumeration of colon bacilli in milk and water. - J. Path. Bact., 40; 581-599. (1935).
2. HYNES, M.: The isolation of intestinal pathogens by selective media. - J. Path. Bact., 54; 193-207. (1942).