

61792 Leifson Agar (Deoxycholate Citrate Agar according to Leifson, modified, DC Agar)

For the isolation of *Salmonella* and *Shigella* species according to Leifson, modified by Hynes. It is a selective media that completely suppress the gram-positive microbial flora and inhibit the coliforms.

Composition:

Ingredients	Grams/Litre
Meat extract	5.0
Meat peptone	5.0
Lactose 10g/l	10.0
Sodium thiosulfate	5.4
Ammonium ferric citrate	1.0
Sodium deoxycholate	3.0
Sodium citrate 6g/l	6.0
Neutral red 0.02g/l	0.02
Agar 15g/l	15.0

Final pH 7.5+/-0.2 (at 25°C)

Store prepared media below 8 °C, protected from direct light. Store dehydrated powder in a dry place in tightly-sealed containers at 2-25 °C.

Directions:

Dissolve 50.4 g in 1 litre distilled water heating if necessary, cool rapidly and pour plates. Do NOT autoclave and do not remelt solidified agar.

Principle and Interpretation:

Meat extract and meat peptone provides the nitrogen, amino acids, vitamins and other essential growth nutrients. Deoxycholate and citrate completely suppress the gram-positive microorganisms and inhibit the coliforms more or less. *Salmonellae* grow normally but some species of *Shigella* are slightly inhibited like e.g. *Shig. shigae*. Neutral red is a pH indicator which change to a red color below pH 6.8. Due to the fermentation of lactose and the attendant acid production the color changes to red. Nonfermenting species grow as colourless colonies. Microorganisms with the ability to reduce thiosulfate to sulfide are indicated by black centred colonies, due to the formation of iron sulfide.

Cultural characteristics after 28-48 hours at 35 °C.

Organisms (ATCC)	Growth	Colour of colony
<i>Salmonella typhi</i> (6539)	+++	colourless to tan
<i>Salmonella typhimurium</i> (14028)	+++	colourless to tan
<i>Salmonella enteritidis</i> (13076)	+++	black centred
<i>Shigella sonnei</i> (25931)	++	colourless to pink
<i>Shigella flexneri</i> (12022)	++	Colourless to pink
<i>Escherichia coli</i> (25922)	-/+	Pink with zone of precipitation
<i>Enterococcus faecalis</i> (29212)	-	-



References:

1. E. Leifson, 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 (1935)
2. M. Hynes, The isolation of intestinal pathogens by selective media. - J. Path. Bact., 54, 193 (1942)
3. MacFaddin, J.F., (1985). Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria. Vol. 1. Williams and Wilkins. Baltimore, Maryland.

Precautions and Disclaimer

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