

Also known as

DCL Agar

Specification

Differential solid medium for the isolation of enterobacteria according to APHA.

Formula * in g/L

Peptone.....	10.00
Lactose.....	10.00
Sodium chloride.....	5.00
Sodium citrate.....	2.00
Sodium deoxycholate.....	0.50
Neutral red.....	0.03
Agar.....	15.00

Final pH 7,1 ±0,2 at 25 °C

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Suspend 42,5 g of powder in 1 L of distilled water and bring to the boil. Do not autoclave and pour into sterile Petri plates. The medium loses its efficiency if overheated and so avoid autoclaving and/or re-melting.

Description

The Deoxycholate-Lactose Agar is very close to the classical Deoxycholate Agar, differing only in the amount of Deoxycholate and in its reduced inhibitory capacity. The present formulation is made according to the recommendation of APHA and AOAC.

The inhibition of Gram positive microorganisms is due primarily to its content of sodium deoxycholate, although citrate is also an active inhibitor. Differentiation of enteric bacilli is achieved by lactose fermentation. Organisms that ferment lactose, produce acid that, in presence of neutral red indicator, produce pink colonies that may also be surrounded by a zone of precipitated deoxycholate. Non-Lactose-fermenting bacteria form colourless colonies that are surrounded by a clear orange-yellow zone.

The dehydrated medium may have small black particles of the medium itself.

Technique

Inoculate the specimen as soon as possible directly onto the surface of the medium. Incubate the plates à 35 ± 2°C for 18-24 hours. Plates can be incubated for an additional 24 hours if lactose-fermentation is not observed.

Quality control
Incubation temperature: 35°C ±2,0

Incubation time: 21 ± 3h

Inoculum: Practical range 100 ± 20 CFU. Min. 50 CFU (Productivity) / 10⁴-10⁶ CFU (Selectivity) according to ISO 11133:2014/Amd 1:2018 .

Microorganism

Enterococcus faecalis ATCC® 29212
Escherichia coli ATCC® 25922
Proteus mirabilis ATCC® 43071
Salmonella abony NCTC® 6017
Salmonella typhimurium ATCC® 14028
Shigella sonnei ATCC® 9290
Shigella flexneri ATCC® 12022

Growth

Inhibited
Productivity > 0.50
Productivity > 0.50
Productivity > 0.50
Productivity > 0.50
Productivity > 0.50
Productivity > 0.50

Remarks

Selectivity
Pink colonies with a precipitation zone
Colourless colonies w/o precipitation
Colourless colonies w/o precipitation
Colourless colonies w/o precipitation
Colourless colonies w/o precipitation
Colourless colonies w/o precipitation
Colourless colonies w/o precipitation

References

- ATLAS, R.M. and L.C. PARKS (1993) Handbook of Microbiological Media. CRC Press. Boca Raton. Fla.
- GREENBERG, A.E., L.S. CLESCERI & A.D. EATON (1995) Standard Methods for the examination of Water and Wastewater. 19th ed. APHA- AWWA-WEF. Washington. DC.
- ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
- VANDERZANT, C. & SPLITTSTOESSER (1992) Compendium of methods for the microbiological examination of food. 3rd ed. APHA. Washington. DC.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 °C to 30 °C).