TM 089 – DEOXYCHOLATE LACTOSE AGAR

INTENDED USE

for isolation and enumeratrion of coliforms in water, milk and dairy products.

PRODUCT SUMMARY AND EXPLANATION

Deoxycholate Lactose Agar is a modification of Deoxycholate Agar as described by Leifson and prepared according to formula specified in Standard Methods for Examination of Dairy Products Water and Waste Water and Food for the detection of coliform bacilli. It differs from Deoxycholate Agar by its decreased concentration of sodium deoxycholate. Pour plate method is carried out using suitable dilutions. A thin layer of additional agar can be poured over the solidified pour plates to facilitate enumeration.

Deoxycholate Lactose Agar is selective against gram-positive organisms which are inhibited by optimum concentration of sodium deoxycholate and sodium citrate in the medium. It helps to differentiate between lactose fermenting and non-fermenting enteric bacilli.

COMPOSITION

Ingredients	Gms / Ltr
Peptone, special	10.000
Lactose	10.000
Sodium chloride	5.000
Sodium citrate	2.000
Sodium deoxycholate	0.500
Neutral red	0.030
Agar	15.000

PRINCIPLE

The medium consists of Peptone special which provides nitrogenous and carbonaceous compounds, long chain amino acids and other essential nutrients. Lactose helps in differentiating enteric bacilli, as lactose fermenters produce red colonies while lactose non- fermenters produce colourless colonies. Coliform bacteria, if present form pink colonies on this medium. The degradation of lactose causes acidification of the medium surrounding the relevant colonies and the pH indicator neutral red changes its colour to red. These colonies usually are also surrounded by a turbid zone of precipitated deoxycholic acid due to acidification of the medium. Sodium deoxycholate combines with neutral red in an acidic environment, causing the dye to go out of the solution with the subsequent precipitation of deoxycholate.

INSTRUCTION FOR USE

- Dissolve 42.53 grams in 1000 ml purified/distilled water.
- Mix well and heat to boiling to dissolve the medium completely.
- The medium requires no autoclaving if it is to be used at once. If the medium is to be stored, it should be sterilized at 15 psi pressure (121°C) for 15 minutes. AVOID OVERHEATING.
- Cool to 45-50°C. Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to pink homogeneous free flowing powder.
Appearance of prepared medium : Reddish orange coloured, clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 7.1 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
Bacillus subtilis subsp. spizizeni	6633	>=10^3	Inhibited	0%	-	35 -37 °C	18-24 Hours
Escherichia coli	25922	50-100	Good-luxuriant	>=50%	Pink with bile precipitate	35 -37 °C	18-24 Hours
Klebsiella aerogenes	13048	50-100	Good-luxuriant	>=50%	Pink	35 -37 °C	18-24 Hours
Salmonella Typhimurium	14028	50-100	Good-luxuriant	>=50%	Colourless	35 -37 °C	18-24 Hours
Enterococcus faecalis	29212	>=10^3	Inhibited	0%	-	35 -37 °C	18-24 Hours

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

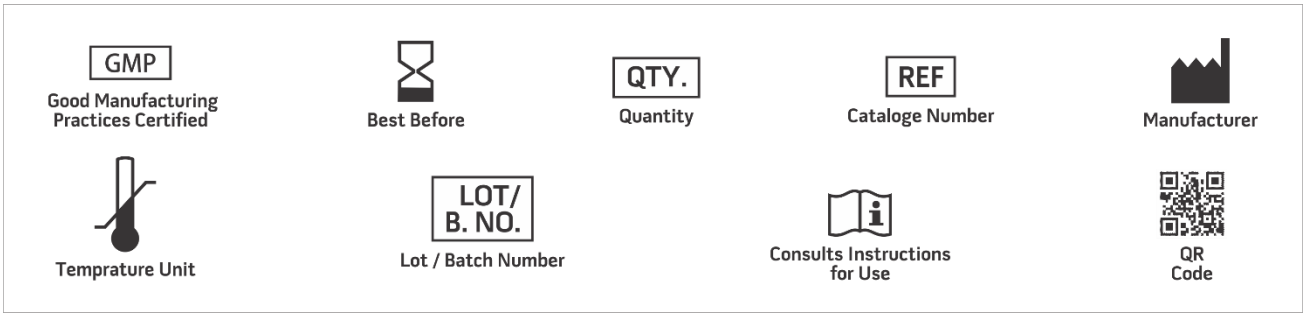
DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
2. Leifson, 1935, J. Path. Bact., 40:581.

3. Richardson (Ed.), 1985, Standard Methods for the Examination of Dairy Products, 15th ed., APHA, Washington, D.C.
4. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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