TM 1870- DEOXYCHOLATE CITRATE AGAR MEDIUM (IS : 5887 (Part VII) 1999, reaffirmed 2005)

INTENDED USE

For isolation of *Shigella* species from food samples.

PRODUCT SUMMARY AND EXPLANATION

Deoxycholate Citrate Agar Medium is a moderately selective and differential plating medium used for isolating enteric bacilli, particularly *Salmonella* and many *Shigella* species. This medium utilizes sodium deoxycholate and sodium citrate to selectively isolate target pathogens. The organisms are differentiated in this medium on the basis lactose fermentation and on their ability to reduce ferric ammonium citrate to iron sulphide. The medium is in accordance with IS 5887(Part VII), 1999.

COMPOSITION

Ingredients	Gms / Ltr
Agar	20.450
Lactose	9.090
Sodium citrate	7.720
Sodium thiosulphate	7.720
Protease peptone	4.550
Meat extract	4.550
Ferric ammonium citrate	0.900
Sodium deoxycholate	0.450
Neutral red	0.023

PRINCIPLE

The media contains meat extract and protease peptone which serves as a source of carbon and nitrogen. Lactose is the fermentable carbohydrate and neutral red as pH indicator helping in differentiation of enteric bacilli as lactose ferments produce red colonies while non lactose produces colorless colonies. Gram positive bacteria, coliforms and proteus species is inhibited due to sodium citrate and sodium deoxycholate. Ferric ammonium citrate aids in the detection of H2S producing bacteria. If the bacteria produce H_2S, the colonies will have black centers. The majority of normal intestinal bacteria ferment lactose and do not produce H_2S (red colonies without black centers). *Salmonella* and *Shigella* spp. do not ferment lactose but Salmonella may produce H_2S (Colorless colonies with or without black centers). Lactose fermenting colonies may have a zone of precipitation around them caused by the precipitation of deoxycholate in the presence of acid.

INSTRUCTION FOR USE

1. Dissolve 55.45 grams in 1000ml distilled water.
2. Gently heat to boiling with gentle swirling and dissolve the medium completely.
3. Do not autoclave. Avoid excessive heating.
4. Mix well and pour into sterile Petri plates

QUALITY CONTROL SPECIFICATION

Appearance of Dehydrated powder : Light yellow to pinkish beige colored, Homogeneous free flowing powder

Appearance of Prepared medium : Reddish orange colored, clear to slightly opalescent gel

pH (at 25°C) : 7.3± 0.2

INTERPRETATION

Cultural characteristics observed after incubation. Recovery rate is considered 100% for bacteria growth on Soya Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Color of colony	H_2S Production	Incubation Temp.	Incubation Period
Salmonella enteritidis	13076	50-100	Good-Luxuriant	>=50%	Colorless	positive reaction, black centered colonies	35-37°C	18-24 Hours
Salmonella typhimurium	14028	50-100	Good-Luxuriant	>=50%	Colorless	positive reaction, black centered colonies	35-37°C	18-24 Hours
Shigella flexneri	12022	50-100	Good	40-50%	Colorless	-	35-37°C	18-24 Hours
Escherichia coli	25922	50-100	Poor	20-30%	Pink with bile ppt	Negative reaction	35-37°C	18-24 Hours
Enterocccus faecalis	29212	50-100	Inhibited	0%	-	-	35-37°C	18-24 Hours
Shigella sonneii	29930	50-100	Good	40-50%	Colorless	Negative reaction	35-37°C	18-24 Hours

PACKAGING

In 100 & 500 gm packaging size.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°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.

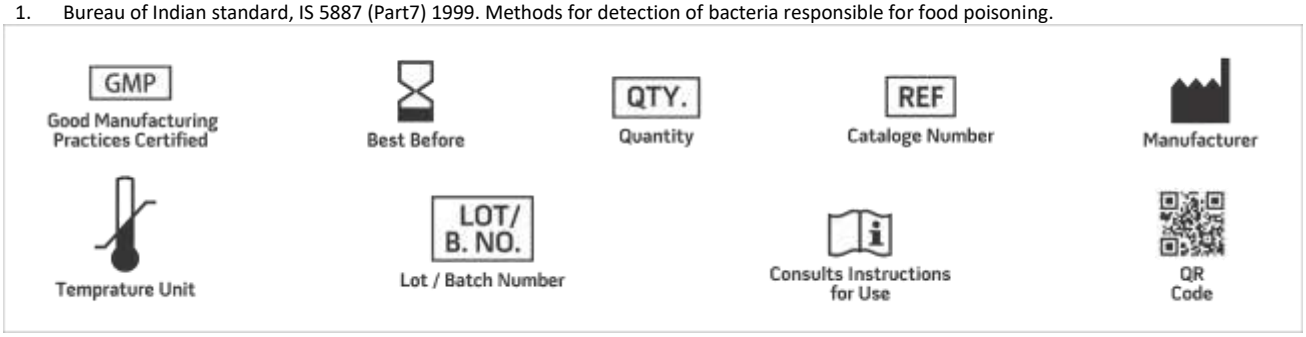
Product Deterioration: Do not use powder if they show evidence of microbial contamination, discoloration, drying, or other signs of deterioration.

DISPOSAL

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

REFERENCES

1. Bureau of Indian standard, IS 5887 (Part7) 1999. Methods for detection of bacteria responsible for food poisoning.



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

***For Lab Use Only**

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