Chaitanya Group Of Industries

ReadyMED®
Dehydrated Cell Culture Media

Technical Data Sheet

Deoxycholate Citrate Agar RDM-DCA-01

Principle
Deoxycholate citrate agar is modification of Desoxycholate Agar as formulated by Leifson for recovery of intestinal pathogens from specimens containing normal intestinal flora. Deoxycholate citrate agar medium is consisting of meat extract, proteose peptone, lactose, sodium deoxycholate, sodium thiosulphate, ferric ammonium citrate, sodium citrate, neutral red and agar. Meat infusion from and proteose peptone is source of nitrogen, carbon and other growth factors required for growth. Lactose is the fermentable carbohydrate. Sodium deoxycholate, ferric ammonium citrate and sodium citrate inhibit growth of gram-positive bacteria. Sodium thiosulphate is source of sulfide reduced to hydrogen sulfide and react with an iron salt yielding iron sulfide. Neutral red is a pH indicator and agar is a solidifying agent. Differentiation of enteric bacilli is based on fermentation of lactose. Bacteria that ferment lactose produce acid and, in the presence of neutral red, form pink colored colonies. Bacteria that do not ferment lactose form colorless colonies. The majority of normal intestinal bacteria ferment lactose (pink colonies) while Salmonella and Shigella species do not ferment lactose (colorless colonies). The organisms known to reduce ferric ammonium citrate to iron sulphide are indicated by blackening of the central position of colony.

Use: Recommended for Isolation of Shigella species from food samples in accordance with IS 5887 (Part 7): 1999.

Contents*

Ingredients	Gram/Litre
Meat extract	4.550
Proteose Peptone	4.550
Lactose	9.090
Sodium Deoxycholate	0.450
Ferric Ammonium Citrate	0.900
Sodium Citrate	7.720
Sodium thiosulphate	7.720
Neutral Red	0.023
Agar	20.450
pH at 25˚C	7.3 ±0.2

* Formula adjusted for optimum performance and parameters

Directions: Dissolve 55.50 grams in 1000 ml distilled water. Boil to dissolve the medium completely. **DO NOT STERILIZE BY AUTOCLAVING**, cool it to 42-45 °C and distribute aseptically in to the petri plates. Ensure complete solidification and inoculate test sample aseptically.

Specimens types analyzed
Food and dairy samples, pharmaceutical samples, clinical and non-clinical samples etc.

Precautions to be taken
These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	Pinkish beige colored free flowing, homogeneous powder
Reaction of 5.55% solution	7.3 ±0.2 at 25 ˚C
pH	7.10- 7.50
Gelling	Firm comparable with 2.04% agar gel
Color and clarity of ready medium	Orange-red colored opalescent gel
Growth Promotion properties	Best at ≤ 100 CFU at 32-37 ºC for 18-72 h
Indicative properties	Optimum at ≤ 100 CFU at 32-37 ºC for 18-48 h
Negative control	Performed using sterile distilled water

Different Microbial Response

Cultural characteristics observed after incubation at 35-37°C for 18-24 hours. (Inoculum CFU: 50-100)

Organism	ATCC	Growth	Recovery	Color of colony	H_2S production
Salmonella typhi	14028	Luxurious	70-75%	Colorless	Positive reaction, black centered colonies
Shigella flexneri	12022	Good	50-70%	Colorless	Negative reaction
Escherichia coli	8739	Inhibited	10-25%	Pink with bile precipitate	Negative reaction

Storage and Shelf Life

Hygroscopic; keep container tightly closed. Store in cool dry place.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.
2. *Difco Manual* (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.
3. Bureau of Indian standard, IS 5887 (Part7) (1999). Methods for detection of bacteria responsible for food poisoning.
4. Leifson, E. (1935). *New culture media based on sodium desoxycholate for the isolation of intestinal pathogens and for the enumeration of colon bacilli in milk and water*. J. Pathol. Bacteriol.40:581-599.