

DESOXYCHOLATE AGAR

CAT N°: 1020

For the isolation and differentiation of Gram-negative enteric bacilli

FORMULA IN g/l

Peptone Mixture	10.00	Sodium Desoxycholate	1.00
Lactose	10.00	Ferric Ammonium Citrate	1.00
Sodium Chloride	5.00	Neutral Red	0.033
Dipotassium Phosphate	2.00	Bacteriological Agar	16.00
Sodium Citrate	1.00		

Final pH 7.3 ± 0.2 at 25°C

PREPARATION

Suspend 46 grams of the medium in one liter of distilled water. Soak for 10-15 minutes. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. AVOID OVERHEATING. DO NOT AUTOCLAVE. Cool to 45-50°C and dispense into Petri dishes. The prepared medium should be stored at 8-15°C. The color is red-orange.

The dehydrated medium should be homogeneous, free-flowing and pinkish beige in color. If there are any physical changes, discard the medium.

NOTE: Overheating may increase the degree of inhibition.

USES

DESOXYCHOLATE AGAR is a selective and differential medium for the isolation and differentiation of Gram negative enteric bacilli. Leifson demonstrated improved recovery of intestinal pathogens from specimens containing normal intestinal flora.

The Desoxycholate and Citrate salts inhibit the development of the Gram positive organisms. The Peptone mixture provides nitrogen, vitamins, minerals and amino acids essential for growth. Lactose is the fermentable carbohydrate providing carbon and energy. Dipotassium phosphate acts as a buffer system. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Neutral red is a pH indicator. Bacteriological agar is the solidifying agent.

Inoculate and incubate at 35 ± 2°C for 18- 24 hours. The recovery of organisms is sometimes facilitated by adding a thin layer over the inoculated and solidified agar. Differentiation of enteric bacilli is based on the fermentation of lactose. Lactose fermenters acidify the medium and, under Neutral red, form red or pink colonies. The colonies of the microorganisms which do not ferment lactose such as *Salmonella*, *Shigella* and *Proteus* are colorless.

MICROBIOLOGICAL TEST

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of 35 ± 2°C and observed after 18- 24 hours.

Microorganisms	Growth	Colony Color
<i>Escherichia coli</i> ATCC 25922	Good	Pink with bile precipitate
<i>Salmonella typhimurium</i> ATCC 14028	Good	Colorless
<i>Staphylococcus aureus</i> ATCC 25923	Inhibited	---

BIBLIOGRAPHY

Standard Methods for the Examination of Dairy Products. 1 ed. APHA, Inc. New York, 1960. Standard Methods for the Examination of Water and Wastewater, APHA, Inc. New York, 1960.

STORAGE

Once opened keep powdered medium closed to avoid hydration.



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