DEOXYCHOLATE AGAR (7130)

Intended Use
Deoxycholate Agar is used for the isolation and differentiation of Gram-negative enteric bacilli.

Product Summary and Explanation
Deoxycholate Agar was described first by Leifson for isolation of intestinal pathogens and the enumeration of intestinal pathogens in milk and water.[1] Deoxycholate Agar was an improvement over other media because of the chemicals, citrates and sodium deoxycholate worked well as inhibitors. This medium is used to screen *Salmonella* spp. and *Shigella* spp. from clinical specimens.[2]

Principles of the Procedure
Enzymatic Digest of Casein and Enzymatic Digest of Animal Tissue are the nitrogen and vitamin sources in Deoxycholate Agar. Differentiation of enteric bacilli is based on fermentation of Lactose. Sodium Chloride and Dipotassium Phosphate maintain the osmotic environment of the medium. Sodium Deoxycholate, Ferric Citrate, and Sodium Citrate inhibit growth of Gram-positive bacteria. Neutral Red is a pH indicator. Agar is the solidifying agent.

Formula / Liter
Enzymatic Digest of Casein ..... 5 g
Enzymatic Digest of Animal Tissue ..... 5 g
Lactose ..... 10 g
Sodium Deoxycholate ..... 1 g
Sodium Chloride ..... 5 g
Dipotassium Phosphate ..... 2 g
Ferric Citrate ..... 1 g
Sodium Citrate ..... 1 g
Neutral Red ..... 0.03 g
Agar ..... 16 g
Final pH: 7.3 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precautions
1. For Laboratory Use.
2. IRRITANT. Irritating to eyes, skin, and respiratory system.

Directions
1. Suspend 46 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. DO NOT AUTOCLAVE.

Quality Control Specifications
Dehydrated Appearance: Powder is homogeneous, free flowing and beige to pink-beige.

Prepared Appearance: Prepared medium is light to medium pink-red and trace to slightly hazy.

Expected Cultural Response: Cultural response on Deoxycholate Agar at 37 ± 0.2°C after 18 - 24 hours incubation.

Microorganism	Growth	Reactions
Enterococcus faecalis® 29212	inhibited	---
Escherichia coli ATCC® 25922	partial to complete inhibition	pink ± bile precipitate, where recovered
Salmonella choleraesuis ® 13076	growth	colorless
Salmonella typhimurium ATCC® 14082	growth	colorless
Shigella flexneri ATCC® 12022	growth	colorless
Staphylococcus aureus ATCC® 25923	inhibited	---

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure
For a complete discussion on the isolation and identification of enteric bacilli and Deoxycholate Agar, refer to appropriate references.

Results
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 to red colonies. Bacteria that do not ferment lactose form colorless colonies. The majority of normal intestinal bacteria ferment lactose (red colonies) while *Salmonella* spp. and *Shigella* spp. do not ferment lactose (colorless colonies).

Storage
Store dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration
Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure
Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Packaging

Deoxycholate Agar	**Code No.**	**7130A**	**500 g**
		7130B	**2 kg**
		7130C	**10 kg**

References

1. **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. **40**:581-599.
2. **Murray, P. R., E. J. Baron, M. A. Pfaller, F. C. Tenover, and R. H. Yolken (eds.).** 1995**.** Manual of clinical microbiology, 6th ed. American Society for Microbiology, Washington, D.C.

Technical Information
Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (517)372-9200 or fax us at (517)372-2006.