XLD AGAR
(XYLOSE LYSINE DESOXYCHOLATE AGAR)

INTENDED USE:
XLD Agar is a moderately selective and differential medium for the isolation, cultivation and differentiation of gram-negative enteric microorganisms from both clinical and non-clinical specimens.

PRINCIPLE AND INTERPRETATION:
XLD Agar is both a selective and differential medium. It utilizes sodium desoxycholate as the selective agent and, therefore, it is inhibitory to gram-positive microorganisms. Xylose is incorporated into the medium since it is fermented by practically all enterics except for the shigellae and this property enables the differentiation of Shigella species. Lysine is included to enable the Salmonella group to be differentiated from the nonpathogens since without lysine, salmonellae rapidly would ferment the xylose and be indistinguishable from nonpathogenic species. After the salmonellae exhaust the supply of xylose, the lysine is attacked via the enzyme, lysine decarboxylase, with reversion to an alkaline pH which mimics the Shigella reaction. To prevent similar reversion by lysine positive coliforms, lactose and saccharose (sucrose) were added to produce acid in excess.To add to the differentiating ability of the formulation, an H_2S indicator system, consisting of sodium thiosulfate and ferric ammonium citrate, is included for the visualization of the hydrogen sulfide produced, resulting in the formation of colonies
with black centers. The nonpathogenic H_2S-producers do not decarboxylate lysine; therefore, the acid reaction produced by them prevents the blackening of the colonies.

COMPOSITION:

Ingredients	Gr/Liter
Yeast extract	3 gr
L-Lysine HCl	5 gr
Xylose	3,75 gr
Lactose	7,5 gr
Sucrose	7,5 gr
Sodium desoxycholate	1 gr
Sodium chloride	5 gr
Sodium thiosulphate	6,8 gr
Ferric ammonium citrate	0,8 gr
Phenol red	0,08 gr
Agar	12,5 gr

***Formula adjusted, standardized to suit performance parameters
pH: 7,4 ± 0.2

PRECAUTIONS:
For professional use only. Do not use plates if they show evidence of microbial contamination, discoloration, drying, cracking or other signs of deterioration.

TEST PROCEDURE:
Faeces or rectal swabs may be plated directly or selective enrichment broths may be used prior to streaking out. Selenite Broth or Tetrathionate Broth may be used for salmonella enrichment.

1. Inoculate the poured, dried plates with a loopful of inoculum either from a suitable enrichment broth, from stool samples or rectal swabs.
2. Incubate the plates at 35-37°C for 18-24 hours.

QUALITY CONTROL:

1.Sterility Control:
Incubation 48 hours at 30-35°C and 72 hours at 20-25°C: NO GROWTH

2.Phsical/Chemical Control
pH: 7,4 ± 0,2
Apperance: Pink

3.Microbiological Control: Cultural response on XLD Agar at 35± 2 °C after 18 and 24 hours incubation.

Microorganism	Inoculum (CFU)	Results	
		Growth	Reaction
Salmonella typhimurium ATCC 14028	10-100	Good	Black centered colonies
Shigella flexneri ATCC 12022	10-100	Good	Pink
Proteus spp.	10-100	Good	Black centered pink colonies
Enterococcus faecalis ATCC 29212	100-1000	Inhibition	-
Escherichia coli ATCC 25922	100-1000	Partial inhibition	-

LIMITATIONS OF THE PROCEDURE:

For identification, organisms must be in pure culture. Morphological, biochemical, and/or serological tests should be performed for final identification. Consult appropriate texts for detailed information and recommended procedures. A single medium is rarely adequate for detecting all organisms of potential significance in a specimen. Cultures of specimens grown on selective media should, therefore, be compared with specimens cultured on nonselective media to obtain additional information and help ensure recovery of potential pathogens.

STORAGE CONDITIONS AND SHELF LIFE:

Store the prepared medium at 2 - 12°C. Use before expiry date on the label. Do not use beyond stated expiry date.

DISPOSAL:

Incubated prepared medium may contain active bacteria and micro-organisms. Do not open infected medium. Infected plate should be autoclaved, incinerated or opened and soaked in a chlorine-based disinfectant (liquid bleach) for 20 minutes prior to disposal.

PACKAGING:

Katalog Number: 02055
Packaging: Single wrap
Content: 10 plates/each package

REFERENCES:

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6. Pollock, H.M., and B.J. Dahlgren. 1974. Clinical evaluation of enteric media in the primary isolation of Salmonella and Shigella. Appl. Microbiol. 27:197-201.
7. National Committee for Clinical Laboratory Standards. 2001. Approved Guideline M29-A2. Protection of laboratory workers from occupationally acquired infections, 2nd ed. NCCLS, Wayne, PA.
8. Garner, J.S. 1996. Hospital Infection Control Practices Advisory Committee, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Guideline for isolation precautions in hospitals. Infect. Control Hospital Epidemiol. 17:53-80.
9. U.S. Department of Health and Human Services. 1999. Biosafety in microbiological and biomedical laboratories, HHS Publication (CDC), 4th ed. U.S. Government Printing Office, Washington, D.C.