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XLD AGAR TM 492

INTENDED USE

For selective isolation and enumeration of *Salmonella typhi* and other *Salmonella* species.

COMPOSITION

Ingredients	Gm\Ltr.
Agar	15.000
Sucrose	7.500
Lactose	7.500
Sodium thiosulphate	6.800
L-Lysine	5.000
Sodium chloride	5.000
Xylose	3.500
Yeast extract	3.000
Sodium deoxycholate	2.500
Ferric ammonium citrate	0.800
Phenol red	0.080

PRODUCT SUMMARY AND EXPLANATION

XLD Agar was formulated by Taylor for the isolation and differentiation of enteric pathogens including *Salmonella typhi* from other *Salmonella* species. XLD Agar has been recommended for the identification of *Enterobacteriaceae* and for the microbiological testing of foods, water and dairy products. The media formulation does not allow the over growth of other organisms over *Salmonella* and *Shigella*.

XLD Agar is one of the media used in the Microbial Limit Tests in the USP & EP

PRINCIPLE

The medium contains Yeast extracts as source of vitamins and minerals. Addition of Sodium deoxycholate acts as a selective agent which is inhibitory to Gram-positive bacteria. It suppresses the growth of other enteric pathogens and enhances the growth of only few enteric bacilli. The medium contains Xylose as a fermentable carbohydrate which is utilized by *Salmonella* species. The medium pH is changed due to fermentation of Xylose which is detected by indicator Phenol red, thus the colony colour turns red. The medium also contains Lactose and Sucrose as the source of fermentable sugar. L-lysine is an essential amino acid source. Lysine is added to differentiate *Salmonella* Sp.

Sodium chloride helps maintaining the osmotic balance of the cells. This medium also allows differentiation of bacilli based on their ability to produce H_2S; it contains Sodium thiosulphate and Ferric ammonium citrate that helps visualizing the black centered colonies on production of hydrogen sulphide in the medium. Agar is added as the solidifying agent.

INSTRUCTION FOR USE

1. Dissolve 56.68g in 1000ml distilled water.
2. Gently heat to boil with gentle swirling and dissolve the medium completely. (DO NOT AUTOCLAVE. DO NOT RE-HEAT).
3. Cool to 45 - 50˚C prior to dispense into sterile petri plates

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder: Light yellow to pink colour, homogeneous mixture, free flowing powder

Appearance of prepared medium: Red colour, clear to slightly opalescent gel

pH (at 25°C): 7.4 ± 0.2

INTERPRETATION

Cultural response was observed after inoculating (10^3CFU/ml), after incubation at 35-37°C for 18-24 hours.

Microorganisms	ATCC	Inoculum (CFU/ml)	Growth	Recovery (%)	Appearance of colony
Proteus vulgaris	13315	10^3	Good	≥ 50 %	Grey with black centres
Salmonella typhimurium	14028	10^3	Good	≥ 50 %	Red with black centres
Salmonella paratyphi B	8759	10^3	Good	≥ 50 %	Red with black centres
Salmonella enteritidis	13076	10^3	Good	≥ 50 %	Red with black centres
Salmonella typhi	6539	10^3	Good	≥ 50 %	Red with black centres
Shigella dysenteriae	13313	10^3	Good	≥ 50 %	Red
Salmonella paratyphi A	9150	10^3	Good	≥ 50 %	Red
Shigella sonnei	25931	10^3	Fair to Good	30 -40 %	Red
Staphylococcus aureus	6538	10^3	Inhibited	0%	-
Enterococcus faecalis	29212	10^3	Inhibited	0%	-

Enterobacter aerogenes	13048	10^3	Fair	20 -30 %	Yellow
Enterobacter cloacae	13047	10^3	Fair	20 -30 %	Yellow

STORAGE & STABILITY

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.

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