



Product Data Sheet

XLD AGAR

Product No. GB-DCM-00018-1A

INTENDED USE

For selective isolation and enumeration of Salmonella Typhi and other Salmonella species.

PRODUCT SUMMARY

XLD Agar has been recommended for the identification of Enterobacteriaceae and for the microbiological testing. XLD Agar was formulated by Taylor for the isolation and differentiation of enteric pathogens including Salmonella Typhi from other Salmonella species of foods, water and dairy products. XLD Agar exhibits increased selectivity and sensitivity as compared to other plating media e.g. SS Agar, EMB Agar and Bismuth Sulphite Agar. The media formulation does not allow the overgrowth of other organisms over Salmonella and Shigella. Samples suspected of containing enteric pathogens, along with other mixed flora, are initially enriched in Modified Semisolid RV Medium Base. XLD Agar is both selective and differential medium. It utilizes sodium deoxycholate as the selective agent and therefore it is inhibitory to gram-positive microorganisms.

Product Specifications

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

PRINCIPLE

The medium consists of yeast extract, which provides nitrogen and vitamins required for growth. Though the sugars xylose, lactose and sucrose provide sources of fermentable carbohydrates, xylose is mainly incorporated into the medium since it is not fermented by *Shigellae* but practically by all enterics. This helps in the differentiation of *Shigella* species. Sodium chloride maintains the osmotic balance of the medium. Lysine is included to differentiate the *Salmonella* group from the non-pathogens. *Salmonellae* rapidly ferment xylose and exhaust the supply. Subsequently lysine is decarboxylated by the enzyme lysine decarboxylase to form amines with reversion to an alkaline pH that mimics the *Shigella* reaction. However, to prevent this reaction by lysine-positive coliforms, lactose and sucrose are added to produce acid in excess. Degradation of xylose, lactose and sucrose to acid causes phenol red indicator to change its colour to yellow.

INSTRUCTION FOR USE

- Dissolve 56.68 grams in 1000 ml purified/distilled water.
- Heat with frequent agitation until the medium boils. **DO NOT HEAT IN AN AUTOCLAVE.**
- Transfer immediately to a water bath at 50°C. After cooling, pour into sterile Petri plates.
- It is advisable not to prepare large volumes, which will require prolonged heating and may produce precipitate.

Note: Slight precipitation in the medium may occur, which is an inheriting property of the medium, and does not affect the performance of the medium.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder :	Light yellow to light pink homogeneous free flowing powder.
Appearance of prepared medium:	Red coloured clear to very slightly opalescent gel forms in Petri plates.
pH (at 25°C) :	7.4 ± 0.2

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Color of the colony	Incubation Temperature	Incubation Period
Enterobacter aerogenes	13048	50-100	Luxuriant	>=70%	Red with black centers	35-37°C	18-72 Hours
Escherichia coli	8739	50-100	Fair	20 -30 %	Yellow	35-37°C	18-72 Hours
Escherichia coli	25922	50-100	Fair	20 -30 %	Yellow	35-37°C	18-72 Hours
Proteus vulgaris	13315	50-100	Good-luxuriant	>=50%	Grey with black centers	35-37°C	18-72 Hours
Salmonella Paratyphi A	9150	50-100	Good-luxuriant	>=50%	Red	35-37°C	18-72 Hours
Salmonella Paratyphi B	8759	50-100	Good-luxuriant	>=50%	Red with black centers	35-37°C	18-72 Hours
Salmonella Enteritidis	13076	50-100	Good-luxuriant	>=50%	Red with black centers	35-37°C	18-72 Hours
Salmonella Typhi	6539	50-100	Good-luxuriant	>=50%	Red	35-37°C	18-72 Hours
Shigella dysenteriae	13313	50-100	Fair-good	30 -40 %	Red	35-37°C	18-72 Hours
Shigella flexneri	12002	50-100	Fair-good	30 -40 %	Red	35-37°C	18-72 Hours
Shigella sonnei		50-100	Fair	20 -40 %	Yellow	35-37°C	18-72 Hours
Enterobacter aerogenes	13048	50-100	Fair	20 -40 %	Yellow	35-37°C	18-72 Hours
Enterobacter cloacae	13047	50-100	Inhibited	0%	-	35-37°C	>=72 Hours
Staphylococcus aureus	25923	>10 ⁴	Inhibited	0%	-	35-37°C	>=72 Hours
Staphylococcus aureus subsp. aureus	6538	>10 ⁴	Inhibited	0%	-	35-37°C	>=72 Hours
Enterococcus faecalis	29212	>10 ⁴	Inhibited			35-37°C	18-72 Hours

This product is for research use only.