TM 1621 -XLD AGAR MODIFIED (ISO 6579-2002)

INTENDED USE

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

PRODUCT SUMMARY AND EXPLANATION

XLD Agar, modified is a selective and differential medium for the isolation of gram-negative enteric pathogens from clinical specimens or food products. It is a modification of the original formulation of Taylor, that allows selective isolation of *Salmonella typhi* and other *Salmonella* species. It is recommended by the ISO committee and the composition & performance criteria of this medium are as per the specifications laid down in ISO 6579-1: 2017.

COMPOSITION

Ingredients	Gms / Ltr
Agar	15.000
Sucrose	7.500
Lactose	7.500
Sodium thiosulphate	6.800
L-Lysine hydrochloride	5.000
Sodium chloride	5.000
Xylose	3.750
Yeast extract	3.000
Sodium deoxycholate	1.000
Ferric ammonium citrate	0.800
Phenol red	0.080

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* spp. 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

- Dissolve 55.43 grams in 1000ml distilled water.
- Gently heat to boiling with swirling to dissolve the medium completely. Do not autoclave.
- Transfer the medium immediately to a water bath at 45 – 50°C.
- After cooling, pour into sterile Petri plates.

Note:

1. It is advisable not to prepare large volumes which will require prolonged heating.

2. Slight precipitation in the medium may occur, which is inheritant property of the medium, and does not affect the performance of the medium.

QUALITY CONTROL SPECIFICATIONS

Appearance of Dehydrated powder	:	Light yellow to pink, homogeneous free flowing powder
Appearance of Prepared medium	:	Red colored, clear to slightly opalescent gel
pH (at 25°C)	:	7.4± 0.2

INTERPRETATION

Cultural characteristics observed after incubation. Recovery rate is considered 100% for bacteria growth on Soya Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of colony	Recovery	Incubation Temperature	Incubation Period
Salmonella typhimurium	14028	50-100	Good	Red with black centres	>=50%	37±1°C	24±3 Hours
Salmonella enteritidis	13076	50-100	Good	Red with black centres	>=50%	37±1°C	24±3 Hours
Shigella flexneri	12022	50-100	Good	Red	>=50%	37±1°C	24±3 Hours
Escherichia coli	25922	≥1000	Poor or partial Inhibition	Yellow	20-30%	37±1°C	24±3 Hours
Escherichia coli	8739	≥1000	Poor or partial Inhibition	Yellow	20-30%	37±1°C	24±3 Hours
Enterococcus faecalis	19433	≥1000	Inhibited	-	0%	37±1°C	24±3 Hours
Enterococcus faecalis	29212	≥1000	Inhibited	-	0%	37±1°C	24±3 Hours

PACKAGING

In 100 & 500 gm packaging size.

STORAGE

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.

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

DISPOSAL

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

REFERENCES

1. Isenberg H. D., Kominos S., and Sigeal M., 1969, Appl Microbiol., 18, 656-659
2. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
3. Microbiobiology of the food chain- Horizontal method for the detection, enumeration and serotyping of Salmonella- Part I Detection of Salmonella. International Organization for Standardization (ISO), ISO/DIS 6579-1:2017
4. Taylor. Am. J. Clin. Pathol. 44:471. (1965).
5. Taylor and Schelhart. Appl. Microbiol. 16:1387. (1968)

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

***For Lab Use Only**
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