Instructions For Use
ENGLISH

XLD Agar

Selective medium for detection of *Salmonella* and *Shigella* spp in food, environmental samples and other materials, according to ISO 6579 and ISO 21567.

DESCRIPTION

XLD (Xylose Lysine Deoxycholate) Agar is a selective medium used for the isolation and differentiation of pathogen Enterobacteriaceae, especially *salmonellae* and *shigellae* from food, environmental samples and clinical specimens.

XLD Agar is formulated according to ISO 6579 and ISO 21567 for the detection of *Salmonella* and *Shigella* spp, respectively.

TYPICAL FORMULA	(g/l)
Yeast Extract	3.0
Sodium Chloride	5.0
Xylose	3.75
Lactose	7.5
Sucrose	7.5
L-Lysine	5.0
Sodium Thiosulfate	6.8
Iron(III) Ammonium Citrate	0.8
Phenol Red	0.08
Sodium Deoxycholate	1.0
Agar	15.0
Final pH 7.4 ± 0.2 at 25°C	

METHOD PRINCIPLE

Yeast extract is a source of vitamins, particularly of B-group. Sodium chloride maintains the osmotic balance of the medium. Xylose, lactose and sucrose are the fermentable carbohydrates. Lysine is the decarboxylase substrate. Sodium thiosulfate and ferric ammonium serve as indicators of hydrogen sulphide production under alkaline conditions. Phenol red is the pH indicator. Sodium deoxycholate is the selective agent inhibiting most Gram-positive bacteria. Agar is the solidifying agent.

PREPARATION

Dehydrated medium	Suspend 55.4 g of the powder in 1 liter of distilled or deionized water. Mix well. Heat to boil shaking frequently until completely dissolved. DO NOT AUTOCLAVE.
Medium in bottles	Melt the content of the bottle in a water bath at 100°C (loosing the cap partially removed) until completely dissolved. Immediately cool at 45-50°C, mix well avoiding foam formation and aseptically distribute into Petri dishes.

TEST PROCEDURE

Inoculate the plates by spread method. Incubate aerobically at 37 ± 1°C for up to 48 hours.

INTERPRETING RESULTS

After incubation observe the color of the colonies and interpret the results as indicated in the ID Table.

ID Table.

Microorganism	Appearance of colonies
Salmonella, Edwarsiella spp	Red with black center
Shigella, *Providencia*, *Pseudomonas* spp, *Salmonella paratyphi* (H_2S-negative strains)	Red
Salmonella thyphosa (xilose-positive strains)	Orange
Escherichia coli, *Enterobacter*, *Aeromonas*, *Klebsiella*, *Serratia* spp	Yellow with yellow zone
Citrobacter spp (lactose-positive strains)	Yellow with yellow zone, sometimes with black center
Proteus spp	Yellow with yellow zone and black center

APPEARANCE

Dehydrated medium: free-flowing, homogeneous, pink.
Prepared medium: slightly opalescent, red.

STORAGE

The powder is very hygroscopic, store the powder at 10-30°C, in a dry environment, in its original container tightly closed. Store bottles, tubes and prepared plates at 10-25°C away from light. Do not use the product beyond its expiry date on the label or if product shows any evidence of contamination or any sign of deterioration.

SHELF LIFE

Dehydrated medium: 2 years.
Medium in bottles: 1 year.
Ready-to-use plates: 6 months.

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QUALITY CONTROL

Plates are inoculated with the microbial strains indicated in the QC table.
Inoculum for productivity: ≤100 CFU
Inoculum for selectivity: >10^3 CFU
Incubation conditions: aerobically at 37 ± 1°C for 24 ± 3 hours.

QC Table.

Microorganismo		Growth	Specification
Salmonella Typhimurium	WDCM 00031	Good	Red colonies with black center
Salmonella Enteritidis	WDCM 00030	Good	Red colonies with black center
Shigella flexneri	ATCC® 12022	Good	Red colonies
Escherichia coli	WDCM 00013	Poor	Yellow colonies
Enterococcus faecalis	WDCM 00087	Inhibited	---

WARNING AND PRECAUTIONS

The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous. It is nevertheless recommended to consult the safety data sheet for its correct use.
The product is intended for *in vitro* diagnostic use and must be used only by properly trained operators.

DISPOSAL OF WASTE

Disposal of waste must be carried out according to national and local regulations in force.

BIBLIOGRAPHY

1. EN ISO 11133:2014. Microbiology of food, animal feed and water – Preparation, production, storage and performance testing of culture media.
2. EN ISO 21567:2004 Microbiology of food and animal feeing stuffs – Horizontal method for the detection of *Shigella* spp.
3. ISO 6579:2002 Microbiology of food and animal feeing stuffs – Horizontal method for the detection of *Salmonella* spp.
4. Vanderzant C. and D.F. Splittstoesser (1992) Compendium of methods for the microbiological examination of foods, 3rd ed. American Public Health Association, Washington D.C.
5. Rollender W. et al. (1969) Comparison of xylose lysine deoxycholate agar and MacConkey Agar for the isolation of Salmonella and Shigella from clinical specimens. Am J Clin Pathol; 51/2:284-386
6. Taylor W.J. (1965) Isolation of Shigellae I. Xylose lysine agars: new media for isolation of enteric pathogens. Am J Clin Pathol; 44:471-475.
7. Taylor W.J. and Harris B (1965) Isolation of Shigellae II. Comparison of plating media and enrichment broths. Am J Clin Pathol; 44X:476-479.

PRESENTATION		Contents	Ref.
XLD Agar	90 mm ready-to-use plates	20 plates	10056
XLD Agar	90 mm ready-to-use plates	100 plates	10056*
XLD Agar	Bottles	6 x 100 ml bottles	402570
XLD Agar	Dehydrated medium	500 g of powder	610060
XLD Agar	Dehydrated medium	100 g of powder	620060
XLD Agar	Dehydrated medium	5 kg of powder	6100605

TABLE OF SYMBOLS

LOT Batch code	**IVD** *In vitro* Diagnostic Medical Device	Manufacturer	Use by	Fragile, handle with care
REF Catalogue number	Temperature limitation	Contains sufficient for <n> tests	Caution, consult Instruction For Use	Do not reuse

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