XLT4 Agar Base

M1147

Intended Use:

Recommended for selective isolation of *Salmonella* species other than *Salmonella Typhi.*

Composition**

Ingredients	g / L
Proteose peptone	1.600
Yeast extract	3.000
L-Lysine	5.000
Xylose	3.750
Lactose	7.500
Saccharose (Sucrose)	7.500
Ferric ammonium citrate	0.800
Sodium thiosulphate	6.800
Sodium chloride	5.000
Phenol red	0.080
Agar	18.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 59.03 grams in 1000 ml purified/distilled water containing 4.6 ml XLT4 Supplement (FD152). Heat to boiling to dissolve the medium completely. **DO NOT AUTOCLAVE OR OVERHEAT.** Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Salmonella is a genus of gram-negative enterobacteria commonly implicated in foodborne illness and is the causative agent of typhoid and paratyphoid fever. Although most *Salmonella* cannot be distinguished by biochemical characteristics, one serotype, namely *S.* Typhi produce only a trace amount of hydrogen sulphide and is less active biochemically than the more common serotypes (1). XLT4 Agar Base is formulated as described by Miller and Tate (2) for isolating *Salmonella* from faecally contaminated farm samples, which contains other bacteria as well. XLT4 Agar Base enhances the recovery of *Salmonella* species other than *Salmonella* Typhi (3-7).

Proteose peptone is a source of carbon, nitrogen and other essential amino acids and growth factors. Yeast extract supplies nitrogenous requirements and vitamins required for growth. The sugars namely lactose, saccharose and xylose are the fermentable carbohydrates. *Salmonella* rapidly utilize xylose, producing acidity. Subsequently they decarboxylate lysine and revert to alkalinity. To add to the differentiating ability of the formulation, an H_2S indicator system, consisting of sodium thiosulphate and ferric ammonium citrate is included for the visualization of the hydrogen sulphide produced, resulting in the formation of colonies with black centers. The non-pathogenic H_2S producers do not decarboxylate lysine; therefore, the acid reaction generated by them prevents the blackening of the colonies (8).

XLT4 Agar is both selective and differential. Tergitol 4 (FD152) inhibits growth of non-*Salmonella* organisms. Presumptive *Salmonella* colonies should be confirmed by performing biochemical tests.

Type of specimen

Clinical samples - Faeces, Urine

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (9,10).

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In Vitro diagnostic use. For professional use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Further biochemical tests must be performed for confirmation.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Light yellow to pink homogeneous free flowing powder

Gelling

Firm, comparable with 1.8% Agar gel.

Colour and Clarity of prepared medium

Red coloured clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 5.9% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours with added XLT4 Supplement(FD152).

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Enterococcus faecalis ATCC 29212 (00087*)	>=10^4	inhibited	0%	
Escherichia coli ATCC 25922 (00013*)	50-100	Fair-good	30-40%	Yellow
Salmonella Enteritidis ATCC 13076 (00030*)	50-100	good-luxuriant	>=50%	red with black centers
Salmonella Typhimurium ATCC 14028 (00031*)	50-100	good-luxuriant	>=50%	red with black centers
Staphylococcus aureus subsp. *aureus* ATCC 25923 (00034*)	>=10^4	inhibited	0%	
Proteus mirabilis ATCC 25933	50-100	none-poor	<=10%	

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (9,10).

Reference

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2.Miller R. G and Tate C. R., 1990, The Maryland Poultryman April 2-7

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4.Dusch H. and Altwegg M., 1995, J. Clin. Microbiol. 33: 802

5.Miller R. G., Tate C. R., and Mallinson E. T. and Schemer J. A., 1991, Poultry science 70:2429

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9. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
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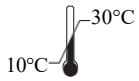
IVD *In vitro* diagnostic medical device



Storage temperature

EC REP CEpartner4U, Esdoornlaan 13,
3951DB Maarn, NL
www.cepartner4u.eu

CE Marking

Do not use if package is damaged

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