

XLT4 Agar

Catalog : HB4208-1

XLT4 Agar is used for isolation and cultivation of pathogenic bacteria in food, especially *Salmonella*.

Approximate Formula:

Ingredients	gm/liter	Ingredients	gm/liter
Peptone	1.6	Ammonium ferric citrate	0.8
Yeast extract	3.0	Sodium thiosulfate	6.8
L-lysine	5.0	Sodium chloride	5.0
Xylose	3.75	Phenol red	0.08
Lactose	7.5	Tergitol-4	1.24
Sucrose	7.5	Agar	13.0

Final pH7.4±0.2 at 25°C

*Adjusted and/or supplemented as required to meet performance criteria.

Directions:

Suspend 55.2g of the medium in one liter of deionized or distilled water. Heat to completely dissolved. Cool to about 50°C, pour into sterile petri dishes.

Principle and Interpretation:

XLT4 Agar contains peptone as a source of complex nitrogen compounds. Yeast extract is added as a source of vitamins and other cofactors. Differentiation of *Salmonella* from other organisms that also grow on this medium is based on fermentation of xylose, lactose and sucrose, decarboxylation of lysine and the production of hydrogen sulfide. Hydrogen sulfide production is detected by the addition of ferric ions. Sodium thiosulfate is added as a source of inorganic sulfur. Sodium chloride maintains the osmotic balance of the medium. Agar is the solidifying agent. Phenol red is added as an indicator of pH changes resulting from fermentation and decarboxylation reactions. Tergitol-4 can inhibit growth of non-*Salmonella* organisms.

Appearance:

Dehydrated medium is a free-flowing reddish powder. The prepared medium is a kind of red transparent gel.

Precautions:

This medium is for laboratory use only. Dried medium which is past shelf life, caking or color variation cannot be used.

Storage conditions and Shelf life:

XLT4 Agar must be stored tightly capped in the original container at 5-30°C. The dehydrated medium has a shelf life of 5 years from date of manufacturing. Prepared medium may be stored, out of direct light at 2-8°C.

Quality control:

Prepare the culture medium as per label directions. Inoculate and incubate at 36±1°C for 18-24 hours.

Microorganism	Strains Number	Inoculum (CFU)	Growth	Remarks
<i>Enterococcus faecalis</i>	ATCC 29212	> 10 ³	Inhibited	/
<i>Shigella flexneri</i>	ATCC 12022	> 10 ³	Partial inhibited	Colorless colonies, no black center
<i>Salmonella typhimurium</i>	ATCC 14028	20-200	Luxuriant	Black colonies
<i>Escherichia coli</i>	ATCC 25922	> 10 ³	Partial inhibited	Yellow colonies
<i>Staphylococcus Aureus</i>	ATCC 6538	> 10 ³	Inhibited	/

References:

1. Miller, Tate, Mallinson and Scherer. 1992. Poultry Science 71:398.4. Tate, Miller and Mallinson. 1992. J. Food Prot. 55:964.
2. Murray, Baron, Jorgensen, Landry and Pfaller (ed.). 2007. Manual of clinical microbiology, 9th ed. American Society for Microbiology, Washington, D.C.