TM 493 – XLT4 AGAR BASE

INTENDED USE

For selective isolation of *Salmonella* species other than *Salmonella* Typhi.

PRODUCT SUMMARY AND EXPLANATION

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. XLT4 Agar Base is formulated as described by Miller and Tate 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.

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

COMPOSITION

Ingredients	Gms / Ltr
Proteose peptone	1.600
Yeast extract	3.000
L-Lysine	5.000
Xylose	3.750
Lactose	7.500
Saccharose	7.500
Ferric ammonium citrate	0.800
Sodium thiosulphate	6.800
Sodium chloride	5.000
Phenol red	0.080
Agar	18.000

PRINCIPLE

The medium consists of Proteose peptone which 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.

INSTRUCTION FOR USE

- Dissolve 59.03 grams in 1000 ml distilled water.

- Add 4.6 ml XLT4 Supplement. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE OR OVERHEAT.
- Mix well and pour in sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

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

INTERPRETATION

Cultural characteristics observed after incubation with added XLT4 Supplement.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
Enterococcus faecalis	29212	>=10^3	Inhibited	0%	-	35-37°C	18-24 Hours
Escherichia coli	25922	50-100	Fair-good	20-40%	Yellow	35-37°C	18-24 Hours
Salmonella Enteritidis	13076	50-100	Good-luxuriant	>=50%	Red with black centers	35-37°C	18-24 Hours
Salmonella Typhimurium	14028	50-100	Good-luxuriant	>=50%	Red with black centers	35-37°C	18-24 Hours
Staphylococcus aureus	25923	>=10^3	Inhibited	0%	-	35-37°C	18-24 Hours
Proteus mirabilis	25933	50-100	None-poor	0-10%	-	35-37°C	18-24 Hours

PACKAGING:

In pack size of 500 gm bottles.

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.

REFERENCES

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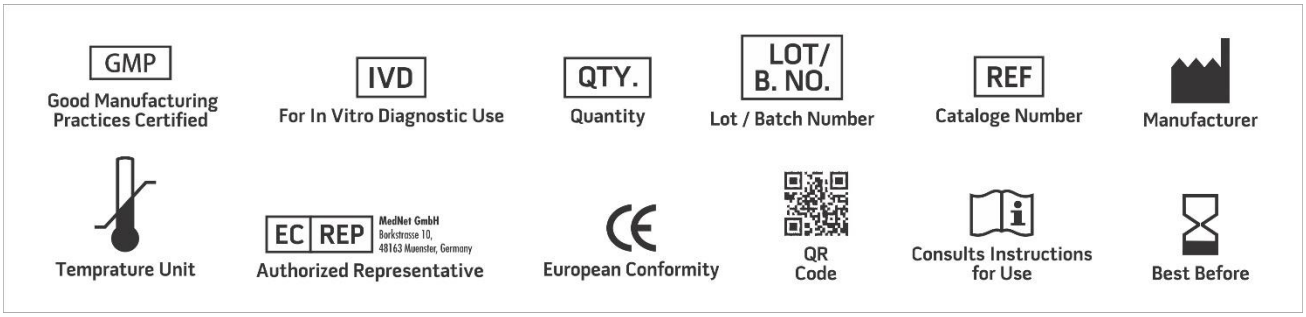

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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