TM 617 - YERSINIA ISOLATION AGAR

INTENDED USE

For selective isolation of *Yersinia* species from foods.

PRODUCT SUMMARY AND EXPLANATION

Yersinia is a gram-negative bacillus that is usually nitrate reductase-positive, fermentative, oxidase-negative and facultative with respect to oxygen requirement. *Yersinia* is usually urease-positive and motile at 25°C but not at 35°C. It is relatively sensitive to acidic conditions; therefore, acid foods and fermented products should be analyzed promptly. A variety of enrichment methods have been described for recovery of *Yersinia enterocolitica* from foods. Highly selective enteric plating media, such as SS Agar have been used for isolation of *Yersinia*. Yersinia Isolation Agar has been developed for selective isolation of *Yersinia* species and preliminary differentiation of *Y. enterocolitica* from human and animal intestinal contents. The medium is recommended by the ISO Committee for identification of *Yersinia* species from foods.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	5.000
Meat extract	5.000
Yeast extract	5.000
Lactose	10.000
Sodium deoxycholate	10.000
Sodium citrate	10.000
Ox bile	8.500
Sodium thiosulphate	8.500
Ferric citrate	1.000
Calcium chloride	1.000
Neutral red	0.025
Brilliant green	0.0003
Agar	15.000

PRINCIPLE

Peptone, Meat extract and yeast extract provide nitrogenous and carbonaceous compounds, vitamin B complex, trace elements and other essential growth nutrients. Neutral red acts as the pH indicator. Lactose is the fermentable carbohydrate. High amount of sodium deoxycholate and bile inhibit *Enterobacteriaceae* but not *Y. enterocolitica*. Brilliant green and sodium citrate suppresses growth of accompanying gram-positive bacteria. Within 24 hours of incubation at 29-30°C, *Y. enterocolitica* and some species of *Enterobacteriaceae* exhibit scanty growth, however, after 48 hours, *Y. enterocolitica* colonies are well established and other *Yersinia* species start growing.

INSTRUCTION FOR USE

- Dissolve 79.00 grams in 1000 ml purified / distilled water.
- Heat if necessary to dissolve the medium completely, do not autoclave
- Cool to 45-50°C and aseptically add Urea solution.
- Mix well and dispense in sterile tubes or flasks as desired.

QUALITY CONTROL SPECIFICATIONS

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

INTERPRETATION

Cultural characteristics observed, after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	None-poor	0-10%	25-30°C	24-48 Hours
Proteus mirabilis	25933	50-100	Fair-good	20 -40 %	25-30°C	24-48 Hours
Salmonella Typhimurium	14028	50-100	Fair-good	20 -40 %	25-30°C	24-48 Hours
Shigella flexneri	12022	50-100	None-poor	0-10%	25-30°C	24-48 Hours
Yersinia enterocolitica	27729	50-100	Good-luxuriant	>=50%	25-30°C	24-48 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 2-8°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.

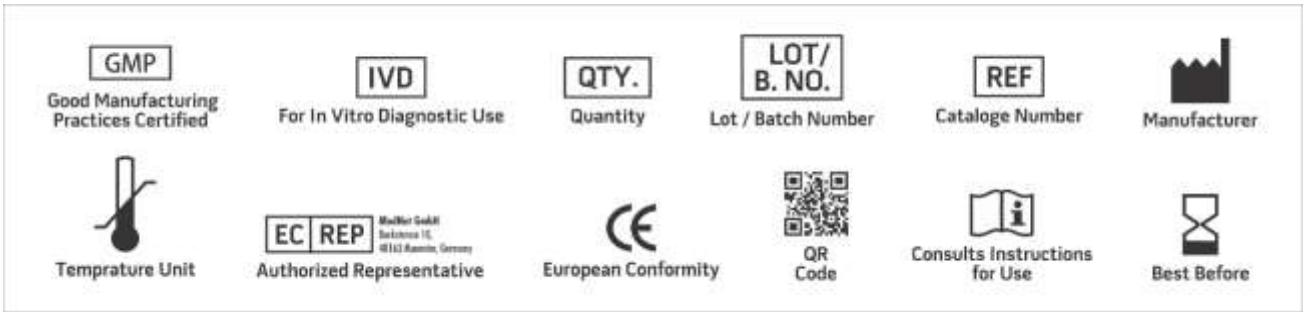
DISPOSAL

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

REFERENCES

1. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.

2. International Organization for Standardization (ISO), 2017 Draft ISO/DIS 10273.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
4. 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.
5. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
6. Wauters G., 1973, Med. Malad. Infect. 3:437.
7. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.



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

***For Lab Use Only**

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