

## TM 2439 - YERSINIA SELECTIVE AGAR BASE, W/ 1.2% AGAR

### INTENDED USE

For the selective, isolation and enumeration of *Yersinia enterocolitica* from food samples in accordance with FDA BAM, 1998.

### PRODUCT SUMMARY AND EXPLANATION

Yersinia Selective Agar Base, w/ 1.2% Agar is formulated, for the isolation of *Yersinia* from food specimens in accordance with FDA BAM, 1998. *Yersinia* species have been reported to be responsible for yersiniosis, a range of diseases/syndromes from gastroenteritis to plague. The organism is transmitted by ingestion of contaminated food (often milk and pork) and water, probably by the fecal-oral route or through contact with infected animals. The mechanisms of pathogenicity in the enteropathogenic *Yersinia* are complex and have served as research models for understanding the infectious process in many enteropathogenic bacteria. Food samples with suspected Yersinia contamination are processed for the bacterial isolation using respective selective agars. According to the BAM protocol, aseptically weigh 25 g sample into 225 ml Peptone Sorbitol Bile Broth. Homogenized samples are incubated for 10 days at 10°C. If high levels of *Yersinia* are suspected, spread plate of 0.1ml each are done on MacConkey Agar and Yersinia Selective Agar Base, w/ 1.2% before incubation of the broth. Also transfer 1 ml homogenate to 9 ml 0.5% KOH in 0.5% saline, mix for 2-3 seconds, and spread-plate 0.1 ml on MacConkey and CIN agars. Incubate agar plates at 30°C for 1-2 days. Repeat this on day 10 as well. *Yersinia* colonies on Yersinia Selective Agar Base, w/ 1.2% appear as deep red center with sharp border surrounded by clear colorless zone with entire edge and on MacConkey, they appear as flat, colorless, or pale pink colonies. Colonies isolated have to be confirmed through biochemical and serological assays.

### COMPOSITION

Ingredients	Gms / Ltr
Peptone, special	20.000
Yeast extract	2.000
Mannitol	20.000
Sodium pyruvate	2.000
Sodium chloride	1.000
Magnesium sulphate	0.010
Sodium deoxycholate	0.500
Neutral red	0.030
Crystal violet	0.001
Agar	12.000

### PRINCIPLE

Peptone and yeast extract provide nitrogenous and carbonaceous compounds, long chain amino acids and other essential compounds. Mannitol is the energy source. Sodium deoxycholate inhibits the growth of most of the non-enteric organisms. Magnesium sulphate provides essential ions and sodium chloride maintains the osmotic equilibrium of the medium. Neutral red and crystal violet acts as the indicators and agar as the solidifying agent.

### INSTRUCTION FOR USE

- Dissolve 28.77 grams in 500 ml purified / distilled water.
- Heat to boiling to dissolve the medium completely.



- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C and aseptically add reconstituted contents of 1 vial of Yersinia Selective Supplement and 1 vial of Yersinia Selective Supplement II.
- Mix well before pouring into sterile Petri plates.

#### 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 with added Yersinia Selective Supplement after and Yersinia Selective Supplement-2 an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Color of the colony	Incubation Temperature	Incubation Period
<i>Enterococcus faecalis</i>	29212	$\geq 10^3$	Inhibited	0%	-	22-32°C	24-48 Hours
<i>Escherichia coli</i>	25922	$\geq 10^3$	Inhibited	0%	-	22-32°C	24-48 Hours
<i>Proteus mirabilis</i>	25933	$\geq 10^3$	Inhibited	0%	-	22-32°C	24-48 Hours
<i>Pseudomonas aeruginosa</i>	27853	$\geq 10^3$	Inhibited	0%	-	22-32°C	24-48 Hours
<i>Yersinia enterocolitica</i>	27729	50-100	Good-luxuriant	$\geq 50\%$	Translucent with dark pink Centre & bile precipitate	22-32°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 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.

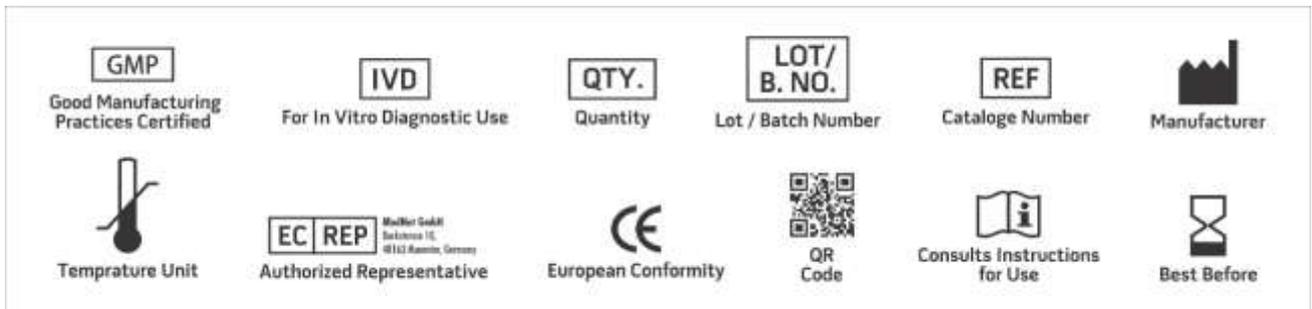


**DISPOSAL**

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

**REFERENCES**

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9. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
10. Weissfeild and Sonnenwirth, 1982, J. Clin. Microbiol. 15 :508.



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

**\*For Lab Use Only**  
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