

For detection and isolation of pathogenic *Yersinia enterocolitica*

HiCrome™ *Yersinia* Agar Base

Recommended for isolation of pathogenic *Yersinia enterocolitica* from clinical specimens and food samples.

M2025

Composition **

Ingredients	Grams/Litre
Peptone mix	24.24
Selective mix	7.74
Chromogenic mixture	10.45
Growth factor	3.00
Agar	12.50

Final pH (at 25°C) 7.4±0.2

** Formula adjusted, standardized to suit performance parameters

Directions

Suspend 57.93 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45 - 50°C and aseptically add reconstituted contents of 1 vial of *Yersinia* Selective Supplement (FD034). Mix well before pouring into sterile Petri plates.

Principle and Interpretation

Yersinia enterocolitica is widely distributed in lakes and reservoirs ranging from intestinal tracts of numerous mammals. Environmental isolates are avirulent, however, isolates recovered from porcine sources contain human pathogens. Epizootic outbreaks of diarrhea, lymphadenopathy, pneumonia and spontaneous abortions occur in various animals due to these pathogenic serogroups. *Y. enterocolitica* is biochemically more active at room temperature than at 37°C. *Yersinia* Selective Agar Base with added *Yersinia* Selective Supplement is used to isolate *Y. enterocolitica* from clinical and food samples (3). *Yersinia* Selective Agar Base is recommended for selective isolation of *Yersinia* (1, 2) with modification of chromogenic identification.

Peptone mix and growth factor provides nitrogen and carbon source, long chain amino acids, vitamins and other essential growth nutrients. The medium is selective due to the presence of selective mix, which inhibit gram-positive and a number of gram-negative bacteria. Addition of antibiotic supplement makes it highly selective for *Yersinia*, thus imparting additional selectivity. One of the chromogen is split by *Yersinia* species and results in purple coloured colonies. Other organisms are either inhibited or results in colourless colonies.

For the isolation of *Y. enterocolitica* by direct plating and pour plating, inoculate the specimen directly onto the medium. Incubate at 22-32°C for 24-48 hours or suspend the sample (food, faeces, etc.) in sterile Phosphate Buffer Saline and incubate for upto 21 days (4) at 4°C.

Type of specimen

Clinical, food samples

Specimen Collection and Handling

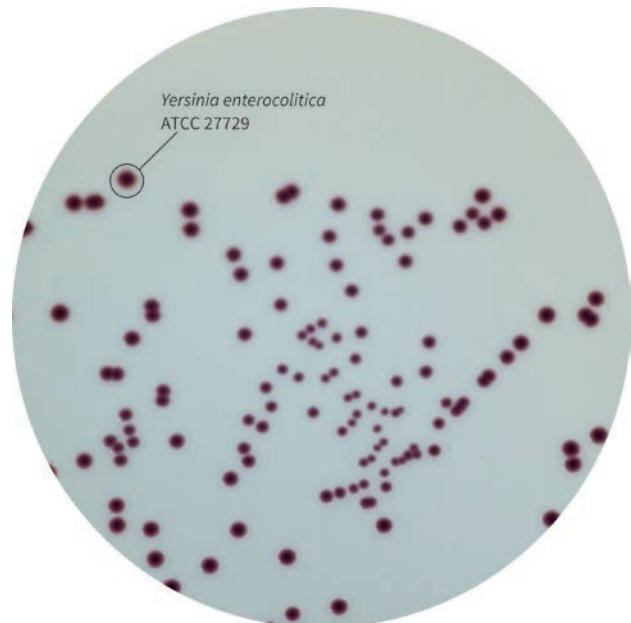
For Clinical samples, follow appropriate techniques for handling specimens as per established guidelines (5, 6).

For food sample follow appropriate techniques for sample collection, processing as per guidelines and local standards (7).

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

Warning and Precautions

In Vitro diagnostic 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



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Limitations

1. Some species may show poor growth due to nutritional variations.
2. Slight colour variation may be observed depending upon strains.

Performance and Evaluation

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

Quality Control

- Appearance of Powder** : Light yellow to greenish yellow homogeneous free flowing powder.
- Gelling** : Firm, comparable with 1.25% Agar gel.
- Colour and Clarity** : Reddish purple coloured clear to slightly opalescent gel forms in Petri plates.
- Reaction** : Reaction of 5.8% w/v aqueous solution at 25°C. pH : 7.4±0.2
- Cultural Response** : Cultural characteristics observed with added *Yersinia* Selective Supplement (FD034) after an incubation at 22-32°C for 24-48 hours.

Organism (ATCC)	Inoculum (CFU)	Growth	Colour of colony
<i>Escherichia coli</i> O157:H7 (NCTC 12900)	>=10 ³	inhibited	
<i>Salmonella</i> Typhimurium ATCC 14028 (00031*)	>=10 ³	inhibited	
<i>Listeria monocytogenes</i> ATCC 19112	>=10 ³	inhibited	
<i>Campylobacter jejuni</i> ATCC 29428	>=10 ³	inhibited	

<i>Yersinia enterocolitica</i> ATCC 27729	50-100	good - luxuriant	Purple
<i>Escherichia coli</i> ATCC 25922 (00013*)	>=10 ³	inhibited	
<i>Enterococcus faecalis</i> ATCC 29212 (00087*)	>=10 ³	inhibited	

Storage and Shelf-life

Store between 2-8°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. Use before expiry date on the label.

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 (5, 6).

References

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7. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.