

**MULLER-KAUFFMANN TETRATHIONATE
NOVOBIOCIN BROTH**
Presentation

Flip-top plastic tube with 10ml.

Sterilization method

Moist heat.

Application

Medium recommended for the selective enrichment of *Salmonella* from food and other samples.

Principle

Many *Salmonella* cells may suffer injury during food processing, making their recovery for subsequent identification important. Additionally, within the same sample, there may exist different microorganisms capable of inhibiting the growth of *Salmonella* species. ISO 6579:2017 recommends selective enrichment of food samples to ensure destruction of competing flora and recovery of *Salmonella* species.

The Müller Kauffmann Tetrathionate Novobiocin Broth is used as a selective enrichment medium for *Salmonella* that may be present in small quantities in food. The medium contains sodium thiosulfate, which, in the presence of iodine, produces tetrathionate that suppresses the growth of coliforms and other enteric bacteria present in the sample. *Salmonella*, *Proteus*, and some other bacterial species can reduce tetrathionate and are not inhibited by it. The addition of novobiocin ensures suppression of *Proteus* growth. Bile promotes *Salmonella* growth but inhibits other accompanying bacteria. Brilliant green suppresses Gram-positive bacteria. Calcium carbonate is the buffering agent for sulfuric acid formed during tetrathionate reduction.

How to use

Add 0.2ml of iodine solution for tetrathionate (iodine/potassium iodide) to the tube with medium. Inoculate the sample according to the technique adopted by the laboratory. Incubate for the time and temperature required by the technique. Proceed with the analysis according to techniques established by the laboratory. After the incubation period, seed onto a selective *Salmonella* agar plate (e.g., XLD, Hektoen, Brilliant Green, SS, etc.), streaking on the surface of the medium using isolation seeding techniques.

Quality Control

Test	Result
Sterility	Absence of microbial growth
<i>Salmonella enterica</i> ATCC 14028	Good growth in colonies pink with black centers after subculturing on XLD agar
<i>Escherichia coli</i> ATCC 25922	Partial or inhibited growth after subculture on non-selective agar
<i>Enterococcus faecalis</i> ATCC 29212	Partial or inhibited growth after subculture on non-selective agar
Appearance	Liquid medium, opaque, light green, with white precipitate
pH at 25°C	8.0 ± 0.2

Results interpretation

Microbial growth is verified through colony formation in the culture medium. In the presence of growth, perform microscopic analysis, subculture in selective medium, or biochemical tests to identify isolated genera and species, if necessary.

Precautions and special care

Product intended for *in vitro* diagnostic use only.

Restricted for use by professionals. Do not inhale or ingest.

Do not use the product beyond the expiration date, with signs of contamination, or if it has changed color. In the presence of contamination, the product should be immediately discarded.

Do not use the product if the packaging is damaged or tampered with.

Storage

Store between 2-15°C in a dry place and protect from light. The product maintains its performance even up to 5 days at room temperature for transportation.

Shelf-life

90 days from the date of manufacture.

Disposal of the product

After use, the product must be handled at the generating unit before environmentally appropriate final disposal, in accordance with official regulations.

Quality Guarantee

bioBoaVista guarantees the quality of its products as long as they are used according to their respective instructions and in accordance with national and international references. bioBoaVista does not take responsibility for the use of its products for purposes other than those described and approved by the company. All clinical diagnoses should be analyzed in conjunction with clinical evidence and not solely based on laboratory results.

References

1. ISO 6579-1:2017. Microbiology of food chain – Horizontal method for the detection, enumeration and serotyping of *Salmonella*. Part 1: Detection of *Salmonella* spp.
2. ISO 11133:2014. Microbiology of food, animal feed and water - Preparation, production, storage and performance testing of culture media.
3. Manual de Métodos de Análise Microbiológica de Alimentos, Livraria Varela, 3ª ed., 2007.
4. Merck Microbiology Manual. 12th ed.