BacterLab Division

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ENRICHMENT MEDIUM

BacterTube™ MKTTn

The medium is used to detect selective enrichment and isolation of *Salmonella*.

Code: 08049

1. INTENDED USE

BacterTube™ MKTTn is used to detect selective enrichment and isolation of *Salmonella*.

2. PRINCIPLES

BacterTube™ MKTTn The medium was first developed by Muller and colleagues. It was later improved by Kauffmann by adding bovine bile and brilliant green to enhance selectivity. Finally, Jeffries and colleagues reported the addition of 40 mg/liter of novobiocin to strengthen the inhibition of *Proteus* species.

BacterTube™ MKTTn contains nutrient-rich components and selective agents such as casein enzymic hydrolysate and peptic digest of animal tissue, which provide sources of carbon, nitrogen, vitamins, and minerals. Bovine bile and brilliant green are selective agents that inhibit Gram-positive organisms and other Gram-negative organisms. Calcium carbonate acts as a buffering system. Sodium chloride maintains osmotic balance. Sodium thiosulphate is a source of sulfur. Tetrathionate (S_4O_6) forms selective agents in enrichment media. Novobiocin is added to inhibit *Proteus* species.

3. TYPICAL COMPOSITION

For 1 liter of medium

Meat extract	4,3g
Enzymatic digest of casein	8,6 g
Sodium chloride	2,6 g
Calcium carbonate	38,7 g
Sodium thiosulphate (anhydrous)	30,5 g
Ox bile	4,78 g
Brilliant green	0,0096 g

pH of the ready-to-use medium at 25°C: 8,0 ± 0,2

4. PREPARATION

The environmental tubes are ready-to-use, no preparation required.

5. INSTRUCTIONS FOR USE

- Transfer 1 mL of the enrichment culture into a prepared MKTTn tube or into a ready-to-melt pre-prepared medium.
- Incubate for 24 ± 3 hours:
  - At 36 ± 2 °C to detect *Salmonellae* in water.
  - At 34 to 38 °C to detect *Salmonellae* in food microbiology methods.
  - At 41.5 ± 1 °C to detect *Salmonellae* in veterinary livestock samples.

6. RESULTS

- Isolate on XLD agar and on a second selective isolation medium, with a single loop inoculation.
- In the presence of characteristic colonies, perform the necessary confirmatory tests.

7. QUALITY CONTROL

BacterLab ensures the quality of each product batch by testing with ATCC reference strains.

Reference Strains	Incubation conditions	Expected results
Salmonella Enteritidis WDCM 00030	18 – 24 hours, incubation at 35 – 37°C, Aerobic	> 10 colonies
Salmonella Typhimurium WDCM 00031		> 10 colonies
Escherichia coli WDCM 00013		≤ 100 colonies
Enterococcus faecalis WDCM 0008		<10 colonies

8. STORAGE AND TRANSPORT CONDITIONS

- Storage: 2 – 8°C.
- Transportation: Ambient temperature.

9. PACKAGING

- Packaging: 50 tubes/ box or as per customer request.

10. SHELF LIFE

- Expiration Date: 6 months from the manufacturing date.

11. BIBLIOGRAPHY

- *www.neogen.com/categories/microbiology/muller-kauffmann-tetrathionate-novobiocin-broth/.*