

Muller Kauffmann Tetrathionate Broth Base

Basal medium for detection of *Salmonella* spp from foodstuffs and environmental samples, according to ISO 6579.

TYPICAL FORMULA	(g/l)
Enzymatic Digest of Casein	8.6
Meat Extract	4.3
Sodium Chloride	2.6
Calcium Carbonate	38.7
Sodium Thiosulfate anhydrous	30.5*
Ox Bile	4.78
Brilliant Green	0.096
Final pH 8.2 ± 0.2 at 25°C	

*Equivalent to 47.8 g of sodium thiosulfate pentahydrate.

DESCRIPTION

Muller Kauffmann Tetrathionate Broth Base is used with supplements for the selective enrichment of *Salmonellae* in food and environmental samples. The medium is formulated in compliance with ISO 6579 requirements.

PRINCIPLE

Enzymatic digest of casein and meat extract provide amino acids, nitrogen, carbon, vitamins and minerals. Sodium chloride maintains the osmotic balance of the medium. Calcium carbonate is the buffer. Sodium thiosulfate is included to produce tetrathionate after adding iodine to the medium. Organisms-reducing tetrathionate, such as *Salmonella*, grow luxuriant while most faecal organisms are inhibited. Bile promotes the growth of *Salmonella* while inhibiting the contaminant bacterial flora. Brilliant green suppresses primarily Gram-positive bacteria. Novobiocin is added to inhibit Gram-positive bacteria.

PREPARATION

Suspend 89.5 g of powder in 1 liter of deionized or distilled water. Heat with frequent agitation and boil for 5 minutes to completely dissolved the powder. DO NOT AUTOCLAVE. Cool up to 45-50°C. Aseptically, add the contents of 2 tubes (20 ml) of Iodine MKTT Solution (ref. 80009). Also add the contents of 2 vials of Novobiocin MKTT Supplement (ref. 81073) each reconstituted with 5 ml sterile distilled water. Mix well. Dispense into sterile containers.

TECHNIQUE

For pre-enrichment, add the sample to Buffered Peptone Water (ref. 414020) at a ratio of 1:9 (e.g. 25 g per 225 ml), homogenize well and incubate at 37 ± 1°C for 16-20 h.

Transfer 1 ml of the pre-enrichment culture to 10 ml of Muller Kauffmann Tetrathionate Broth. Incubate at 37 ± 1°C for 18-24 h.

INTERPRETATION OF RESULTS

Turbidity indicates microbial growth.

Presumptive identification is achieved by subculture onto XLD Agar (ref. 10056) and a second *Salmonella* agar of choice such as Chromatic™ *Salmonella* (ref. 11614). Characteristic presumptive *Salmonella* colonies should be confirmed with biochemical and serological tests.

STORAGE

The powder is very hygroscopic, store the powder at 10-30°C, in a dry environment, in its original container tightly closed and use it before the expiry date on the label or until signs of deterioration or contamination are evident. Store prepared plates at 2-8°C away from light.

WARNING AND PRECAUTIONS

The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous. It is nevertheless recommended to consult the safety data sheet for its correct use. The product is designed for professional use only and must be used by properly trained operators.

DISPOSAL OF WASTE

Disposal of waste must be carried out according to the national and local regulations in force.

REFERENCES

1. ISO 6579:2002. Microbiology of food and animal feeding stuffs – Horizontal method for the detection of *Salmonella* spp.
2. DeSmedit J.M., R. Bolderdijk, H. Rappold and D. Lautenschlaeger (1986) Rapid *Salmonella* detection in food by motility enrichment on a modified semi-solid Rappaport-Vassiliadis Medium. J. Food Prot. 49:510-514.
3. Vassiliadis P., D. Trichopoulos, A. Kalandidi and E. Xirouchaki (1978) Isolation of salmonellae from sewage with a new procedure of enrichment. J. Appl. Bacteriol 44:233-239.
4. Rappaport F., N. Konforti and B Navon (1956) A new enrichment medium for certain salmonellae. J. Clin. Pathol. 9:261-266.



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PRODUCT SPECIFICATIONS

NAME

Muller Kauffmann Tetrathionate Broth Base

PRESENTATION

Dehydrated medium

STORAGE

10-30°C

PACKAGING

Ref.	Content	Packaging
610239	500 g	500 g of powder in plastic bottle
620239	100 g	100 g of powder in plastic bottle

pH OF THE MEDIUM

8.2 ± 0.2

USE

Muller Kauffmann Tetrathionate Broth Base is used with supplements for the selective enrichment of Salmonellae in food and environmental samples. The medium is formulated in compliance with ISO 6579 requirements

TECHNIQUE

Refer to technical sheet of the product

APPEARANCE OF THE MEDIUM

Powder medium

Appearance: free-flowing, homogeneous

Colour: pale green

Ready-to-use medium

Appearance: opaque

Colour: very pale green

SHELF LIFE

4 years

QUALITY CONTROL

- Control of general characteristics, label and print
- Microbiological control
Incubation conditions: 18-24 hours at 37 ± 1°C










Inoculum for productivity: ≤100 CFU

Microorganism		Growth	Specification
Salmonella Typhimurium	WDCM 00031	Good	>10 colonies on XLD agar or other medium of choice
+ <i>Escherichia coli</i>	WDCM 00013		
+ <i>Pseudomonas aeruginosa</i>	WDCM 00025		

Inoculum for selectivity: >10³ CFU

Microorganism		Growth	Specification
<i>Escherichia coli</i>	WDCM 00013	Partially inhibited	≤100 colonies on TSA
<i>Enterococcus faecalis</i>	WDCM 00009	Partially to completely inhibited	<10 colonies on TSA

TABLE OF SYMBOLS

 LOT	Batch code	 Do not reuse	 Manufacturer	 Use by	 Fragile, handle with care
 REF	Catalogue number	 Temperature limitation	 Contains sufficient for <n> tests	 Caution, consult instructions for use	



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