TM 2205 - M-TETRATHIONATE BROTH BASE

INTENDED USE
For selective enrichment of Salmonellae using membrane filter technique.

PRODUCT SUMMARY AND EXPLANATION
Enrichment media favour the multiplication of a particular species as a step towards their isolation in pure culture. M-Tetrathionate Broth is prepared as per the formulation of Kabler and Clark for selective enrichment of *Salmonella* using membrane filter technique. The formulation is similar to Tetrathionate Broth except calcium carbonate. Tetrathionate Broth Base was originally described by Mueller and found that the medium selectively inhibits coliforms and permits the unrestricted growth of enteric pathogens.

COMPOSITION

Ingredients	Gms / Ltr
Proteose peptone	5.000
Bile salts	1.000
Sodium thiosulphate	30.000

PRINCIPLE
Proteose peptone provides nitrogenous nutrients for the bacterial metabolism. Tetrathionate is formed by the addition of iodine solution. The selectivity of the medium depends upon the ability of thiosulphate and tetrathionate in combination, to suppress commensal organisms. Only those organisms possessing the tetrathionate reductase enzyme can grow on this medium. Bile salts inhibit many gram-positive microorganisms. Soak sterile cotton absorbent pads placed in 5-6 cm Petri plates with 2 ml of M-Tetrathionate Broth Base and place the membrane filter inoculum on them. Incubate at 35-37°C for 3 hours and then transfer inoculum membrane filter onto absorbent pads soaked with 2 ml M-Brilliant Green Broth. Incubate at 35-37°C for 15-21 hours. After M-BGB incubation, add urease test reagent (urea- 20 gram, bromothymol blue 0.16 gm and phenol red 0.2 grams in 1000 ml distilled water) to absorbent pads and allow to set for 15-20 minutes to permit reagent to diffuse throughout the medium for development of colour.

INSTRUCTION FOR USE
- Dissolve 3.6 grams in 100 ml distilled water.
- Heat if necessary to dissolve the medium completely.
- Cool below 45°C and add 2 ml Iodine solution containing 0.5 grams' potassium iodide and 0.6 grams' iodine crystals.
- Complete medium should be used on the day of preparation.
- Soak the absorbent pads placed in 5-6 cm Petri dishes with 2 ml broth and place membrane filter inoculums on them.
- Incubate at 35-37°C for 3 hours and then transfer the inoculum membrane filter onto absorbent pads soaked with 2 ml M-Brilliant Green Broth incubate at 35-37°C for 15-24 hours.

QUALITY CONTROL SPECIFICATIONS
Appearance of Powder : White to light yellow homogeneous free flowing powder
Appearance of prepared medium : Amber coloured clear solution without any precipitate
pH (at 25°C) : 8.0±0.2

INTERPRETATION
Cultural characteristics observed with added Iodine solution (containing Potassium Iodide and Iodine crystals), after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth(by Mile Misra test)	Recovery	Colour of colony (on membrane filter)	Colour (after addition of urease test reagent	Incubation Temperature	Incubation Period
Escherichia coli	*25922*	50-100	fair-good	20-40%	yellow-green	yellow	35-37°C	18-24 Hours
Salmonella Enteritidis	*13076*	50-100	good-luxuriant	>=50 %	pink-red	red	35-37°C	18-24 Hours
Salmonella Typhimurium	*14028*	50-100	good-luxuriant t	>=50 %	pink-red	red	35-37°C	18-24 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
1. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone
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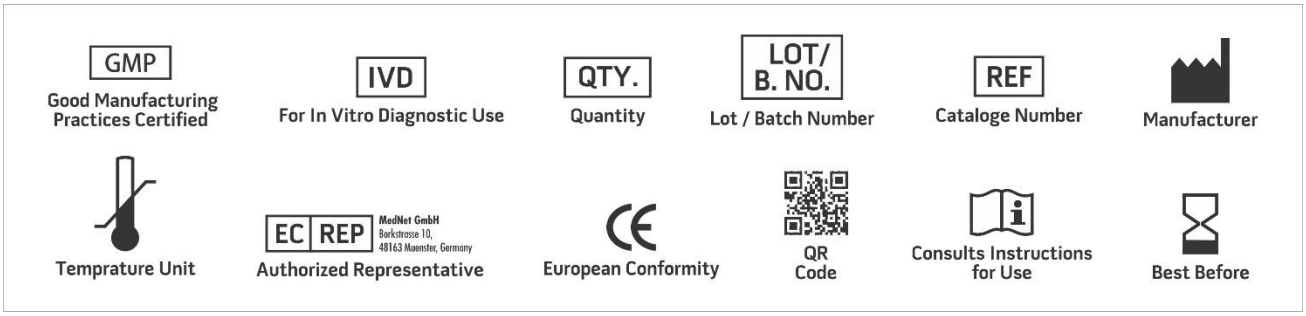
3. Mueller G. M., 1923, Compt. Rend. Seo. Biol., 89:434
4. Pollock M. R. and Knor R., 1943, Biochem J., 37: 476
5. MacFaddin J. F., 1985, Vol. I, Media for the Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Williams and Wilkins, Baltimore.



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

***For Lab Use Only**

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