TM 2083 – FLUID TETRATHIONATE MEDIUM W/O IODINE AND BG, MODIFIED

INTENDED USE

For the selective enrichment method for isolating Salmonellae from food and other materials of sanitary importance in accordance with FDA BAM, 1998.

PRODUCT SUMMARY AND EXPLANATION

Salmonellosis is a disease caused by *Salmonella* present in raw or undercooked food. *Salmonella* is the most common bacterial form responsible for food poisoning causing diarrhoea, vomiting, abdominal cramps and fever lasting for 4-7 days. It can cause serious illness due to consumption of such foods in older adults, infants and persons with chronic diseases. These are present in small numbers compared to coliforms that necessitates the examination of a relatively large sample for the isolation of organism. Due to processing of foods by physical and mechanical methods, sublethally injured *Salmonella* species are often present in foods and needs to be enumerated by resuscitating in suitable enrichment medium.

Enrichment medias include Rappaport Vassilidias medium and Fluid Tetrathionate Broth w/o Iodine and BG, Modified. It is a second selective enrichment medium recommended by FDA, BAM for enriching such *Salmonella* species from food samples under study. Fluid Tetrathionate Medium was originally devised by Mueller for enrichment of *Salmonella*. Organisms possessing the enzyme tetrathionate reductase are known to grow in this media.

COMPOSITION

Ingredients	Gms / Ltr
BioPeptone	5.000
Bile salts	1.000
Calcium carbonate	10.000
Sodium thiosulphate, pentahydrate	30.000

PRINCIPLE

The medium consists of Biopeptone which act as source of carbon, nitrogen, vitamins and minerals. Bile salts selectively inhibits gram positive organisms. Sodium thiosulphate in combination with tetrathionate supresses commensal coliform organisms. Calcium carbonate neutralizes the acidic products of tetrathionate decomposition. Brilliant green also helps to select *salmonella* by inhibiting the accompanying bacteria.

INSTRUCTION FOR USE

- Dissolve 35.12 grams in 1000 ml distilled water and heat just to boiling. DO NOT AUTOCLAVE.
- Cool below 45°C and add freshly prepared solutions: 20 ml iodine solution (iodine-6 grams and potassium iodide-5 grams in 20 ml distilled water) and 10 ml of 0.1% brilliant green solution.
- Mix well and dispense 10 ml portions into 20 x 150 or 16 x 150 mm sterile test tubes. This complete solution should be used on the day of preparation otherwise sterilized broth base may be stored for some time. Do not heat after the addition of iodine solution. Use the medium immediately after addition of iodine.
  Note: Due to presence of calcium carbonate, the prepared medium forms opalescent solution with a white precipitate.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : White to cream homogeneous free flowing powder.

Appearance of prepared medium : Complete medium with added brilliant green and iodine solution - Light green coloured, opalescent solution with heavy white precipitate, which on standing the precipitate settles down.

pH (at 25°C) : 8.4 ± 0.2

INTERPRETATION

Cultural characteristics observed with added brilliant green and iodine solution when sub cultured on XLD Agar after enrichment in Tetrathionate medium, after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of colony	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Little or no increase in numbers	Yellow	35-37°C	18-24 Hours
Salmonella Choleraesuis	12011	50-100	Good-luxuriant	Red with black centres	35-37°C	18-24 Hours
Salmonella Typhi	6539	50-100	Good-luxuriant	Red with black centres	35-37°C	18-24 Hours
Salmonella Typhimurium	14028	50-100	Good-luxuriant	Red with black centres	35-37°C	18-24 Hours
Escherichia coli	8739	50-100	Little or no increase in numbers	Yellow	35-37°C	18-24 Hours
Salmonella Paratyphi A	9150	50-100	Good-luxuriant	Red	35-37°C	18-24 Hours
Salmonella Paratyphi B	8759	50-100	Good-luxuriant	Red with black centres	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

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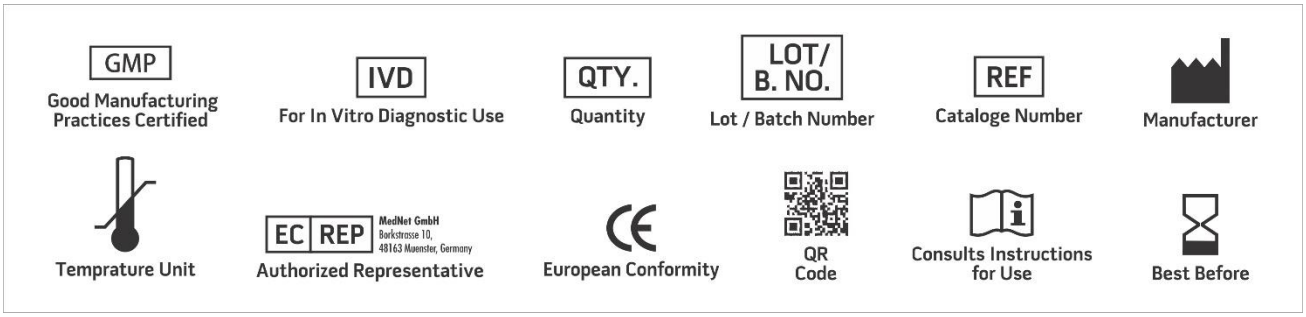
7. Eaton A. D., Clesceri L.S. and Greenberg A. E., (Eds) 2005, Standard Methods for the Examination of Water and Waste Water, 20th Ed.,APHA. Washington, D.C.



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

***For Lab Use Only**

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