Tetrathionate Broth

LQ088

Intended Use

Recommended for enrichment and isolation of *Salmonella* from foods and other pathological materials.

Composition**

Ingredients	g / L
Peptone, special	18.000
Yeast extract	2.000
Sodium chloride	5.000
D-Mannitol	2.500
Dextrose (Glucose)	0.500
Sodium deoxycholate	0.500
Sodium thiosulphate	38.000
Calcium carbonate	25.000
Brilliant green	0.010
Final pH (at 25°C)	7.6±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Label the ready to use LQ088 bottle. Inoculate the sample and Incubate at specified temperature and time.

Principle And Interpretation

Tetrathionate Broth Base was first formulated by Mueller (1) who showed that this medium favours the unrestricted growth of enteric pathogens by selectively inhibiting the coliforms. Muellers medium was subsequently modified by Kauffman (2) and Knox (3) in which they obtained more number of isolates. Tetrathionate Broth Base, Hajna is the modification formulated by Hajna and Damon (4). This medium is also recommended by APHA (5) for the selective enrichment of *Salmonellae* from foodstuffs. Peptone special and yeast extract are the sources of carbon, nitrogen, vitamins and minerals. The selectivity depends on the ability of thiosulphate and tetrathionate (formed by the addition of iodine-iodide) to suppress commensal coliform organisms (6,7). Sodium deoxycholate and brilliant green inhibit gram-positive organisms. Dextrose and Mannitol are the carbohydrates sources. Calcium carbonate neutralizes the acidic tetrathionate decomposition products. Sodium chloride maintains the osmotic balance of the medium. After enrichment of the sample, streak on the plates of Brilliant Green Agar (MP016), MacConkey Agar (MP081), Bismuth Sulphite Agar (M027). Further biochemical and serological tests must be carried out for further identification.

Type of specimen

Clinical specimen: faeces, other material of sanitary importance, Food samples.

Specimen Collection and Handling

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (5).
For clinical samples follow appropriate techniques for handling specimens as per established guidelines (8,9).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic use. For professional use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. For further confirmation, streak the enriched cultures after incubation, on plates of Brilliant Green Agar Plate (MP016), MacConkey Agar Plate (MP081).

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Sterile clear Tetrathionate Broth in glass bottles.

Colour

Bluish green coloured solution with white precipitate

Quantity of Medium

10 ml of medium in bottles.

pH

7.40-7.80

Sterility Check

Passes release criteria

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours (Recovery is done on MacConkey Agar Plate MP081/M081).

Organism	Inoculum (CFU)	Growth on M081/MP081	Colour of colony
Escherichia coli ATCC 25922 (00013*)	50-100	fair-good	pink-red with bile precipitate
Salmonella Enteritidis ATCC 13076 (00030*)	50-100	good-luxuriant	colourless
Salmonella Typhimurium ATCC 14028 (00031*)	50-100	good-luxuriant	colourless
Staphylococcus aureus subsp. *aureus* ATCC 25923 (00034*)	>=10^4	inhibited	

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store between 15-30°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (8,9).

Reference

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4. Hajna A. A. and Damon S. R., 1956, Appl. Microbiol., 4:341.
5. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
6. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
7. Pollock M. R. and Knor R., 1943, Biochem J., 37:476.
8. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
9. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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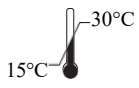
IVD ***In vitro*** **diagnostic medical device**



Storage temperature

EC REP CEpartner4U, Esdoornlaan 13,
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CE **CE Marking**

Do not use if package is damaged

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