

Muller-kaufmann Tetrathionate Broth

Catalog : HB4086-61-500

Muller-kaufmann Tetrathionate Broth is used for selective enrichment of salmonella from various materials, particularly meat, meat products and other food stuffs.

Approximate Formula:

Ingredients	gm/liter
Pancreatic Digest of Casein	7.0
Papaic Digest of Soybean Meal	2.3
Sodium Chloride	2.3
Calcium Carbonate	25.0
Sodium Thiosulfate	40.7
Ox Bile	4.75
Final pH 8.0±0.2 at 25°C	

*Adjusted and/or supplemented as required to meet performance criteria.

Directions:

Suspend 82.0g of the medium in one liter of distilled water or deionized water. Mix well and heat with frequent agitation to completely dissolve the powder. Cool it below 45°C, add 19ml iodine solution (iodine 20g, potassium iodide 25g, distilled water 100ml) and 9.5ml 0.1% brilliant green solution (brilliant green 0.1g, distilled water 100ml). Mix thoroughly. Dispense into sterile petri dishes or flasks.

Principle and Interpretation:

Pancreatic digest of casein, papaic digest of soybean meal provide nitrogen, vitamins, minerals and amino acids essential for growth. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Ox bile and brilliant green are selective agents to inhibit Gram-positive microorganisms. Sodium thiosulfate and iodine result in tetrathionate formation, inhibiting coliforms and intestinal bacteria. Acidic tetrathionate decomposition products such as sulphuric acid are formed, which are neutralized by calcium carbonate, acting as a buffer. Salmonella and Proteus are not inhibited as they reduce tetrathionate.

Appearance:

Dehydrated medium is a free-flowing white powder. The prepared medium is a kind of blue-green transparent liquid.

Precautions:

This medium is for laboratory use only. Dried medium which is caking or color variation cannot be used.

Storage conditions and Shelf life:

Muller-kaufmann Tetrathionate Broth must be stored tightly capped in the original container at 5-30°C. The dehydrated medium has a shelf life of 3 years from date of manufacturing. Prepared medium may be stored, out of direct light at 2-8°C.

Quality control:

Prepare the culture medium as per label directions. Inoculate and incubate at 42°C for 18-24 hours.

Microorganism	Strains Number	Inoculum (CFU)	Growth	Remarks
<i>Salmonella enteritidis</i>	ATCC 13076	10-100	luxuriant	Turbid
<i>Salmonella typhimurium</i>	ATCC 14028	10-100	luxuriant	Turbid
<i>Staphylococcus Aureus</i>	ATCC 6538	>10 ³	Inhibited	/
<i>Escherichia coli</i>	ATCC 8739	>10 ³	Inhibited	/

References:

1. Kauffmann, F. 1935. Weitere erfahrungen mit dem kombinirten anreicherungsverfahren fur Salmonella bazillen. Ztschr. F. Hyg. 117: 26-32.
2. A manual for recommended methods for the microbiological examination of poultry and poultry products. 1982.