

Tetrathionate Broth Base (G293-36.8)

SampleReady® GAMMA IRRADIATED SOLUBLE POUCH

USE: Tetrathionate Broth Base, with added iodine-iodide solution, is used as a selective enrichment medium for the isolation of Salmonella from feces, urine, foods and other materials of sanitary importance

DESCRIPTION: Tetrathionate Broth Base is used as a selective enrichment for the cultivation of Salmonella species that may be present in small numbers and compete with intestinal flora. Salmonella organisms may also be injured in food-processing procedures, which include exposure to low temperatures, sub-marginal heat, drying, radiation, preservatives and sanitizers.¹ Although injured cells may not form colonies on selective media, they can, if ingested, cause disease.² Tetrathionate Broth was originally described by Mueller who found that the medium selectively inhibited coliforms, thereby permitting enteric pathogens to grow virtually without restriction.³ Kaufmann modified Mueller's medium and achieved a higher percentage of isolates.^{4,5} The medium is specified in standard methods.

FORMULA:

Approximate Formula* Per Liter

Proteose Peptone	2.5 g
Pancreatic Digest of Casein	2.5 g
Oxgall	1.0 g
Sodium Thiosulfate	30.0 g
Calcium Carbonate	10.0 g

* Medium may be adjusted and/or supplemented as required to meet performance criteria.

Final pH: 8.4 ± 0.2 at 25°C

PHYSICAL APPEARANCE:

Dehydrated Appearance – White to off-white, may have a slight greenish tint, free-flowing, homogeneous.

Prepared Appearance – Nearly colorless to light yellow supernatant over a heavy white precipitate.

PROCEDURE: Carefully open the Mylar bag and aseptically transfer one soluble pouch to a container with sterile water and mix. Use 800 mL of sterile water per 36.8g pouch. Dissolve completely with repeated stirring or agitation. Once dissolved, the medium is ready for testing applications. Consult reference methods for complete procedures.

EXPECTED RESULTS: Cultural response after 18-24 hours at 35°C.

Microorganism	CFU	Growth
<i>E. coli</i> ATCC™25922	10 ² – 10 ³	Partial - total Inhibition
Salmonella enterica subsp. enterica serotype Typhimurium	10 ² – 10 ³	Growth

STORAGE: Store the sealed Mylar bag at 2-30°C in a dry environment for up to the expiration date.

LIMITATIONS: Once opened, use all pouches within the Mylar bag as soon as possible. Use prepared media within 3 hours for best results. The pouches should be discarded if there has been a change from the original color, or the encapsulated powder is not free flowing.

For laboratory use only.

SIZES AVAILABLE: 36.8g.

PACKAGING: One case contains a total of 140 pouches consisting of 140 hermetically sealed Mylar bags containing 1 soluble pouch containing 36.8 g of dehydrated culture media each. Additional configurations are available upon request.

REFERENCES:

- Hartman and Minich. 1981. J. Food Prot. 44:385.
- Sorrells, Speck and Warren. 1970. Appl. Microbiol. 19:39.
- Mueller. 1923. C. R. Soc. Biol. (Paris) 89:434.
- Kaufman. 1930. Zentrabl. Bakteriell. Parasitenkd. Infektionskr. Hyg. Abt. I Orig. 113:148.
- Kaufman. 1935. Z. Hyg. Infektionskr. 117:26.
- U.S. Food and Drug Administration. 2001. Bacteriological analytical manual, online. AOAC International, Gaithersburg, Md.
- Downes and Ito (ed.). 2001. Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.
- MacFaddin. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1, Williams & Wilkins, Baltimore, Md.
- Murray, Baron, Jorgensen, Landry and Pfaller (ed.). 2007. Manual of clinical microbiology, 9th ed. American Society for Microbiology, Washington, D.C.