Dehydrated Culture Media
Instructions for Use

RAPPAPORT-VASSILIADIS R10 BROTH (M265)

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USE: Rappaport-Vassiliadis R10 Broth is used for selectively enriching *Salmonella* from meat and dairy products, feces, and sewage-polluted water.

DESCRIPTION: Rappaport et al.[1] formulated an enrichment medium for *Salmonella* that was modified by Vassiliadis et al.[2] The Rappaport formulation, designated R25/37°C, recommended incubation at 37°C; the Vassiliadis modification, designated R10/43°C, had a reduced level of malachite green and recommended incubation at 43°C. Later work by Peterz showed that incubation at 41.5° ± 0.5°C for 24 hours improved recovery of *Salmonella* spp.[3] This medium selectively enriches for salmonellae because bacteria, including other intestinal bacteria are typically resistant to or inhibited by malachite green, high osmotic pressure, and/or low pH. *S. typhi* and *S. choleraesuis* are sensitive to malachite green and may be inhibited. Rappaport-Vassiliadis R10 Broth contains peptone as the carbon and nitrogen source for general growth requirements. Magnesium chloride raises the osmotic pressure in the medium. Malachite green is inhibitory to organisms other than salmonellae. The low pH of the medium, combined with the presence of malachite green and magnesium chloride, helps to select for the highly resistant *Salmonella* spp.

FORMULA:

Pancreatic Digest of Casein	4.54 g/L
Sodium Chloride	7.2 g/L
Monopotassium Phosphate	1.45 g/L
Magnesium Chloride (anhydrous)	13.4 g/L
Malachite Green Oxalate	36.0 mg/L
Total	26.6 g/L

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

Final pH: 5.1 ± 0.2 at 25°C

PHYSICAL APPEARANCE:
Dehydrated Appearance – Pale green to green, free-flowing, homogeneous.
Prepared Appearance – Blue, clear.

PROCEDURE:
1. Suspend 26.6 g of the powder in 1 L of purified water. Mix thoroughly.
2. Warm slightly to completely dissolve the powder.
3. Dispense 10 mL amounts into suitable containers.
4. Autoclave at 116°C (10 psi pressure) for 15 minutes.
5. Test samples of the finished product for performance using stable, typical controls.

EXPECTED RESULTS: Cultural response after 18-48 hours at 41.5 ± 0.5°C. Subculture to Brilliant Green Agar and incubate at 35 ± 2°C for 18-24 hours.

Microorganism	CFU	Growth
E. coli ATCC™ 25922	10^3-2x10^3	Marked inhibition
S. enterica ser. Enteritidis ATCC™ 13076	10^2-10^3	+
S. enterica ser. Typhimurium ATCC™ 14028	10^2-10^3	+

STORAGE: Store the product at 2-30°C protected from moisture for up to the expiration date.

LIMITATIONS: For laboratory use only. The dehydrated medium should be discarded if there are any changes in the color or if it is no longer free flowing.

SIZES AVAILABLE: M2651 (20 g), M2652 (500 g), M2653 (2 kg), M2654 (10 kg)

PACKAGING: Additional configurations are available upon request.

REFERENCES:

1. Rappaport, Konforti and Navon. 1956. J. Clin. Pathol. 9:261.
2. Vassiliadis, Trichopoulos, Kalandidi and Xirouchaki. 1978. J. Appl. Bacteriol. 44:233.
3. Peterz, wilberg and Norberg. 1989. J. Appl. Bacteriol. 66:523.
4. International Dairy Federation. 1995. Milk and milk products: detection of *Salmonella*. IDF Standard 93B:1005. Brussels, Belgium.
5. Horwitz (ed.). 2000. Official methods of analysis of AOAC International, 17th ed. AOAC International, Gaithersburg, MD.

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