

Rappaport Vassiliadis Medium with Soya (RVS) (ISO) (NCM0136)

Intended Use

Rappaport-Vassiliadis Medium with Soya is used as a selective enrichment medium for the detection of *Salmonella* spp. in food, animal feed and in environmental samples from the food production area as described in ISO 6579-1:2017. RVS is not intended for use in the diagnosis of disease or other conditions in humans.

Description

Rappaport *et al.* originally described the broth, which was later modified by Vassiliadis *et al.* and optimized by van Schothorst *et al.* Enzymatic digest of soya provides a source of nitrogen and amino acids and sodium chloride provides osmotic pressure. The potassium phosphate components act as a buffer. Magnesium chloride and malachite green act as selective agents against non-target microorganisms. The formulation is very hygroscopic and will produce a slight exothermic reaction when mixed with water. According to ISO 6579-1:2017 subculture is performed from Buffered Peptone Water (BPW) into RVS, followed by subculture onto Xylose-Lysine Deoxycholate Agar (XLD) and another agar. This medium conforms to the performance and formulation requirements of ISO 6579-1:2017.

Typical Formulation

Soy Peptone	4.5 g/L
Sodium Chloride	7.2 g/L
Potassium Dihydrogen Phosphate	1.26 g/L
Dipotassium Hydrogen Phosphate	0.18 g/L
Magnesium Chloride Anhydrous	13.4 g/L
Malachite Green	0.036 g/L
Final pH: 5.2 ± 0.2 at 25°C	

Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precaution

Refer to SDS

Preparation

1. Dissolve 26.58 g of the medium in one liter of purified water.
2. Heat with frequent agitation to dissolve if necessary.
3. Autoclave at 115°C for 15 minutes.

Test Procedure

Food and Environmental Specimens

For detection and enumeration and Serotyping of *Salmonella* - Refer to ISO 6579-1:2017

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and pale green.

Prepared Appearance: Prepared medium is clear, slight precipitate and blue.

Expected Cultural Response: The medium was prepared according to label directions and inoculated with the organisms listed on the next page.



Technical Specification Sheet



Microorganism	Approx. Inoculum (CFU)	Expected Results	
		Recovery on XLD Agar	Recovery on TSA
<i>Salmonella typhimurium</i> ATCC® 14028	10-100	>10 colonies	-
<i>Salmonella enteritidis</i> ATCC® 13076	10-100	>10 colonies	-
<i>Escherichia coli</i> ATCC® 8739	> 10 ⁴	-	≤100 colonies
<i>Escherichia coli</i> ATCC® 25922	> 10 ⁴	-	≤100 colonies
<i>Pseudomonas aeruginosa</i> ATCC® 27853	> 10 ⁴	Suppressed to complete inhibition	-
<i>Enterococcus faecalis</i> ATCC® 29212	> 10 ⁴	-	<10 colonies
<i>Enterococcus faecalis</i> NCTC 775	> 10 ⁴	-	<10 colonies

The organisms listed are the minimum that should be used for quality control testing.

Results

Suspect colonies showing typical *Salmonella* morphology, good growth of red colonies with black centers, should be confirmed by biochemical and/or serological procedures.

Expiration

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container.

Limitation of the Procedure

Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Storage

Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

References

1. ISO 6579-1:2017 Microbiology of the food chain– Horizontal method for the detection, enumeration and serotyping of *Salmonella*. Part 1: Detection of *Salmonella* spp.
2. Rappaport, F., Konforti, N., & Navon, B. (1956). A New Enrichment Medium for Certain *Salmonellae*. *Journal of Clinical Pathology*, 9(3), 261-266.
3. Vassiliadis, P., Pateraki, E., & Papaiconomou, N. (1976). A new procedure of '*Salmonella*' enrichment. *COLLECT. ANN. INST. PASTEUR*, 127 B(2), 195-200.
4. Vassiliadis, P. (1983). The Rappaport—Vassiliadis (RV) enrichment medium for the isolation of salmonellas: An overview. *Journal of Applied Bacteriology*, 54(1), 69-76.
5. van Schothorst, M., Renaud, A., & van Beek, C. (1987). *Salmonella* isolation using RVS broth and MLCB agar. *Food Microbiology*, 4(1), 11-18.



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