Also known as

Rappaport Vassiliadis R10 Broth; RVS Broth.

Specification

Liquid medium for the selective enrichment of *Salmonella* in foodstuffs and other samples, according to ISO and FIL-IDF standards.

Formula * in g/L

Soy peptone 4.500
Sodium chloride 7.200
Monopotassium phosphate 1.260
Dipotassium phosphate 0.180
Magnesium chloride (anhydrous) 13.40
Malachite green 0.036

Final pH 5.2 ±0.2 at 25 °C

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

Directions

Suspend 26.8 g of powder in 1 l of distilled water. Heat up if necessary. Distribute into tubes or flasks and sterilize by autoclaving at 115 °C for 15 minutes.

Description

The Rappaport Vassiliadis medium complies with the recommendations of the APHA for the examination of food.
This culture medium is a modification of the R10 Medium (from Rappaport et al.) or RV Broth (from Vassiliadis et al.) by van Schothorstand Renaud. The modifications are an adjustment in the magnesium chloride concentration and the buffering capacity of the medium to aid pH maintenance during storage. It shows a higher selectivity towards Salmonella and produces better yields than other similar media, especially after preliminary enrichment and at an incubation temperature of 41 ±0.5 °C.
Malachite green, low pH and magnesium chloride inhibit the growth of microorganisms normally found in the intestine but do not affect the proliferation of most Salmonella. As malachite green inhibits the growth of Shigella, other culture methods may need to be used to isolate this organism. The addition of soy peptone enhances the growth of Salmonella.

Technique

Inoculate the culture medium with the sample or material from a pre-enriched culture in buffered Peptone Water and incubate for up to 18-24 hours at 41.5 ±1 °C. Subculture from this broth onto selective culture media.

Quality control

Incubation temperature: 41,5°C ±1 **Incubation time:** 24 ± 3h

Inoculum: Practicalrange 100 ±20 CFU. Min. 50 CFU (productivity)/10□-10□ CFU (selectivity), according to ISO 11133:2014/Amd 1:2018 .

Microorganism	Growth	Remarks
1. *Enterococcus faecalis* ATCC® 29212	Total inhibition	Recovery in TSA
2. *Escherichia coli* ATCC® 25922	Partial inhibition	Recovery in TSA
3. *Salmonella abony* NCTC® 6017 + 6 + 7	Good	Recovery in XLD (Mixed cultures)
4. *S. enteritidis* ATCC® 13076 + 6 + 7	Good	Recovery in XLD (Mixed cultures)
5. *S. typhimurium* ATCC® 14028 + 6 + 7	Good	Recovery in XLD (Mixed cultures)
6. *Escherichia coli* ATCC® 8739	Inhibited	Recovery in XLD
7. *Pseudomonas aeruginosa* ATCC® 27853	Inhibited	Recovery in XLD

References

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· FIL-IDF 93:2001 Standard. Milk and Milk Products. Detection of Salmonella. Brussels.
· HORWITZ, W. (2000) Oficial Methods of Analysis of AOAC International. Gaithersburg. MD. USA.
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. ISO 11133:2014. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
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· VAN SCHOTHORST, M. & A.M. RENAUD (1983) Dynamics of Salmonella isolation with modified Rappaport's Medium (R10). J. appl. Bact. 54:209-215.
· VASSILIADIS, P. (1983) The Rappaport Vassiliadis (RV) enrichment medium for the isolation of salmonellas: An overview. J. Appl. Bact. 54:69-76.
· VASSILIADIS, P., PATERAKI, EPAPAICONOMOU, N., PAPADAKIS, J.A.A., TICHOPOULOS, D. (1976) Noveau procédé d'enrichissement de Salmonella. Ann. Microbiol. (Inst. Pasteur) 127B (195-200).

Storage

Keep tightly closed, away from light, in a dry place (4-30 °C).