

Product Information

04584 Rappaport Vassiliadis Broth acc. to DIN EN ISO 6579:2002 (Rappaport Vassiliadis Soya Broth)

Liquid medium for the selective enrichment of *Salmonella* in foodstuffs and other materials. The Rappaport Vassiliadis medium complies with recommendations of the APHA and ISO for the examinations of food.

Composition:

| Ingredients | Grams/Litre |
|------------------------------|-------------|
| Soy peptone | 4.5 |
| Sodium Chloride | 7.2 |
| Monopotassium phosphate | 1.26 |
| Dipotassium phosphate | 0.18 |
| Magnesium chloride | 13.58 |
| Malachite Green | 0.036 |
| Final pH 5.2 +/- 0.2 at 25°C | |

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Appearance: slightly green coloured, homogeneous powder.
Colour and Clarity: blue, clear solution.

Directions:

Suspend 26.8 g in 1 litre distilled water. Heat gently if necessary to dissolve the medium completely. Dispense as desired into tubes and sterilize by autoclaving at 115°C for 15 minutes.

Principle and Interpretation:

This culture medium is a modification of the formulation of R10 medium from Rappaport (1) and RV broth described by van Schothorst and Renaud (2). This formulation is adjusted in the magnesium chloride concentration and the buffer capacity. It is more selective to *Salmonella* and stimulates their growth, especially after preliminary enrichment and at an incubation temperature of 43°C.

Soy peptone is as a source of nitrogen, carbon and amino acids and enhances the yield of *Salmonella*. Sodium chloride is for the osmotic balance and the potassium phosphates are the buffering substances. Magnesium chloride and Malachite Green inhibits the growth of the natural found intestine flora but do not affect the proliferation of most *Salmonellae*. Malachite Green inhibits also the growth of *Shigella*. A low pH of 5.2 increases the selectivity.

Cultural characteristics after 24-48 hours at 35 ± 2°C.

| Organisms (ATCC) | Growth | Remarks |
|---------------------------------------|--------|-------------------------------|
| <i>Enterococcus faecalis</i> (29212) | - | - |
| <i>Escherichia coli</i> (25922) | + | - |
| <i>Proteus mirabilis</i> (4675) | - | 2h |
| <i>Salmonella sp.</i> (NCTC 6017) | +++ | at 48h the medium turns milky |
| <i>Salmonella typhimurium</i> (14028) | +++ | at 48h the medium turns milky |
| <i>Shigella sonnei</i> (9290) | + | - |
| <i>Shigella flexneri</i> (12022) | + | - |

References:

1. F. Rappaport, N. Konforti, B. Navon, A new enrichment medium for certain salmonellae, J. Clin. Path. 9, 261 (1956)
2. M. van Schothorst, A.M. Renaud, Dynamics of salmonellae isolation with modified Rappaport's medium (R 10), J. Appl. Bact., 54, 209 (1983)
3. P. Vassiliadis, The Rappaport-Vassiliadis (RV) enrichment medium for the isolation of salmonellas: an overview, J Appl Bacteriol., 54(1), 69-76 (1983)
4. M. van Schothorst, A.M. Renaud, Food Mikrobiol., 4, 11 (1987)

5. V. Kalapothaki, P. Vassiliadis, CH. Mavrommati, D. Trichopoulos, Comparison of Rappaport-Vassiliadis Enrichment Medium und Tetrathionate Brilliant Green Broth for Isolation of Salmonellae from Meat Products. - J. Food Protection, 46, 7, 618 (1982)
6. P. Vassiliadis, E. Pallandiou, G. Papoutsakis, D. Trichopoulos, J.A. Papadakis, Essai des Milieux de Rappaport Modifiés à pH plus Elevé, dans la Multiplication des Salmonelles, Arch. de l'inst. Pasteur Hellenique (1977)
7. R.M. Atlas, L.C. Parks, Handbook of Microbiological Media, CRC Press Inc., London (1993)
8. FIL-IDF Standard, Milk and Milk products . Detection of Salmonella, Brussels, 93B:1995
9. FDA, Bacteriological Analytical Manual 8th ed. Rev. A. AOAC International, Gaithersburg, MD (1998)
10. W. Horwitz, Official Methods of Analysis, AOAC International, Gaithersburg, MD (2000)
11. F.P. Downes, K. Ito, Compendium of methods for the microbiological examination of foods, 4th ed. APHA Washington.
12. International Organisation for Standardisation (ISO), Microbiology of food and animal feeding stuffs. Horizontal method for the detection of Salmonella spp., EN-ISO 6579:2002