

## Technical Data Sheet

# ReadyTube™ 10

## RVS (RAPPAPORT-VASSILIADIS-Soya) Broth acc. ISO 6579

Ordering number: 1.46694.0020

For the selective enrichment of *Salmonella* from food and animal feed, water and other materials.

This culture medium complies with the specifications given by EN ISO 6579, EN ISO/FDIS 6579-1, EN ISO 6785 I IDF 93, EN ISO 19250.

### Mode of Action

A modification of the originally described Rappaport medium, using soya peptone instead of tryptone (peptone from casein) was reported to improve recovery rates of *Salmonella* (Van Schothorst and Renaud, 1983 and Van Schothorst et al., 1987). This is in use as Rappaport-Vassiliadis soya peptone (RVS) broth.

The efficiency of RVS broth for salmonella is based on the following: (a) the ability of *Salmonella* spp. to multiply at relatively high osmotic pressures at relatively low pH values, at a high temperature and with modest nutritional requirements; and (b) the suppression of the toxic effect of malachite green towards salmonellae by the presence of magnesium chloride.

For the detection of some *Salmonella* serovars, other culture steps, e.g. other selective enrichment media, may be needed. For *Salmonella* Typhi and *Salmonella* Paratyphi, the procedure is described by EN ISO/FDIS 6579-1.

## Typical Composition

| Specified by ISO 6579                  |           | ReadyTube™ 10 RVS Broth                |           |
|----------------------------------------|-----------|----------------------------------------|-----------|
| Enzymatic Digest of Soya               | 4.5 g/l   | Soy Peptone                            | 4.5 g/l   |
| NaCl                                   | 7.2 g/l   | NaCl                                   | 7.2 g/l   |
| K <sub>2</sub> HPO <sub>4</sub>        | 0.18 g/l  | K <sub>2</sub> HPO <sub>4</sub>        | 0.18 g/l  |
| KH <sub>2</sub> PO <sub>4</sub>        | 1.26 g/l  | KH <sub>2</sub> PO <sub>4</sub>        | 1.26 g/l  |
| MgCl <sub>2</sub> x 6 H <sub>2</sub> O | 28.6 g/l  | MgCl <sub>2</sub> x 6 H <sub>2</sub> O | 28.6 g/l  |
| Malachite Green Oxalate                | 0.036 g/l | Malachite Green Oxalate                | 0.036 g/l |
| Water                                  | 1000 ml/l | Water                                  | 1000 ml/l |
| pH at 25 °C                            | 5.2 ± 0.2 | pH at 25 °C                            | 5.2 ± 0.2 |

## Application and Interpretation

Depend on the purpose for which the medium is used.

Allow the RVS broth to equilibrate at room temperature if it was stored at a lower temperature.

According to EN ISO 6579, transfer 0.1 ml of the culture obtained in the pre-enrichment (Buffered Peptone Water) to a tube containing 10 ml of RVS broth. Minimize the transfer of particulate material from the pre-enrichment into the selective enrichment medium.

Incubate the inoculated broth under aerobic conditions, e.g. according to EN ISO 6579 40.5-42.5 °C for 21-27 h. Care should be taken that the maximum allowed temperature (42.5 °C) is not exceeded.

From the culture obtained in RVS broth selective solid media are inoculated, see details given by EN ISO 6579 or other appropriate standard.

According to EN ISO/FDIS 6579-1, for some products it may be necessary to incubate the selective enrichment medium for an additional 24 h, then follow the same plating-out procedure as described above.

According to EN ISO/FDIS 6579-1, it is permissible to store the selective enrichment after incubation at +2 °C to +8 °C for a maximum of 72 h.

## Storage and Shelf Life

The product can be used for sampling until the expiry date if stored upright, protected from light and properly sealed at +2 °C to +25 °C.

The testing procedures as described on the CoA can be started up to the expiry date printed on the label.

## Disposal

Please mind the respective regulations for the disposal of used culture medium (e.g. autoclave for 20 min at 121 °C, disinfect, incinerate etc.).



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## Quality Control

| Function     | Control strains                                                                                                                                            | Incubation                 | Method of control | Criteria                                                                | Expected results                           |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------|-------------------------------------------------------------------------|--------------------------------------------|
| Productivity | <i>Salmonella</i><br>Enteritidis<br>ATCC 13076<br>+<br><i>Escherichia coli</i><br>ATCC 8739<br>+<br><i>Pseudomonas</i><br><i>aeruginosa</i><br>ATCC 27853  | 21-27 h at<br>40.5-42.5 °C | Qualitative       | > 10 colonies<br>on XLD                                                 | Colorless<br>colonies with<br>black center |
|              | <i>Salmonella</i><br>Typhimurium<br>ATCC 14028<br>+<br><i>Escherichia coli</i><br>ATCC 25922<br>+<br><i>Pseudomonas</i><br><i>aeruginosa</i><br>ATCC 27853 |                            |                   |                                                                         |                                            |
| Selectivity  | <i>Escherichia coli</i><br>ATCC 8739                                                                                                                       | 21-27 h at<br>40.5-42.5 °C | Qualitative       | Partial<br>inhibition<br>≤ 100 colonies<br>on Tryptic Soy<br>Agar (TSA) | -                                          |
|              | <i>Escherichia coli</i><br>ATCC 25922                                                                                                                      |                            |                   |                                                                         |                                            |
|              | <i>Enterococcus</i><br><i>faecalis</i><br>ATCC 19433                                                                                                       |                            |                   | < 10 colonies<br>on Tryptic Soy<br>Agar (TSA)                           |                                            |
|              | <i>Enterococcus</i><br><i>faecalis</i><br>ATCC 29212                                                                                                       |                            |                   |                                                                         |                                            |

Please refer to the actual batch related Certificate of Analysis.

The performance test is in accordance with the current version of EN ISO 11133



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## Literature

ISO International Standardisation Organisation. Microbiology of food and animal feeding stuffs - Horizontal method for the detection of *Salmonella* spp. EN ISO 6579:2002.

ISO International Standardisation Organisation. Microbiology of the food chain - Horizontal method for the detection, enumeration and serotyping of *Salmonella* - Part 1: Horizontal method for the detection of *Salmonella* spp. EN ISO/FDIS 6579-1:2015.

ISO International Standardisation Organisation. Milk and milk products - Detection of *Salmonella* spp. EN ISO 6785 I IDF 93:2001.

ISO International Standardisation Organisation. Water quality - Detection of *Salmonella* spp. EN ISO 19250:2010.

ISO International Standardisation Organisation. Microbiology of food, animal feed and water - Preparation, production, storage and performance testing of culture media. EN ISO 11133:2014.

Mooijman, K.A. (2012): Culture media for the isolation of *Salmonella*. In: Handbook of Culture Media for Food and Water Microbiology. (Corry, J.E.L., Curtis, G.D.W. and Baird, R.M. eds.), pp. 261-286. Royal Society of Chemistry, Cambridge, UK.

Van Schothorst M. and Renaud, A.M. (1983): Dynamics of salmonellae isolation with modified Rappaport's medium (R 10). J. Appl. Bact. **54**: 209-215.

Van Schothorst, M., Renaud, A.M. and van Beck, C. (1987): *Salmonella* isolation using RVS broth and MLCB agar. Food Microbiol. **4**: 11-18.

## Ordering Information

| Product                                                                       | Cat. No.     | Pack size   | Other pack sizes available  |
|-------------------------------------------------------------------------------|--------------|-------------|-----------------------------|
| <b>ReadyTube™ 10</b> RVS Broth ISO 6579                                       | 1.46694.0020 | 20 x 10ml   |                             |
| <b>GranuCult™</b> RVS Broth ISO 6579                                          | 1.07700.0500 | 500 g       |                             |
| <b>ReadyTube™ 9</b> BPW ISO 6579, 6887, 21528                                 | 1.46142.0020 | 20 x 9 ml   | 6 x 225 ml,<br>6 x 1000 ml, |
| <b>GranuCult™</b> Buffered Peptone Water ISO 6579, 21528, 22964               | 1.07228.0500 | 500g        | 5 kg, 25 kg                 |
| <b>ReadyTube™ 12</b> MSRV Medium ISO 6579                                     | 1.46694.0100 | 100 x 12 ml |                             |
| MSRV Selective Supplement                                                     | 1.09874.0010 | 10 x 1 vial |                             |
| MSRV Medium (Base) ISO 6579                                                   | 1.09878.0500 | 500 g       |                             |
| <b>GranuCult™</b> MKTTn (Muller Kaufmann Tetrathionate Novobiocin) Broth Base | 1.05878.0500 | 500 g       |                             |
| Iodine resublimed                                                             | 1.04761.0100 | 100 g       | 500 g                       |
| Potassium Iodide                                                              | 1.05043.0250 | 250 g       | 500 g, 1 kg                 |
| <b>ReadyPlate™</b> XLD Agar ISO 6579                                          | 1.46751.0020 | 20 x 90 mm  |                             |



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|-------------------------------------|--------------|------------|----------------------------|
| <b>GranuCult™</b> XLD Agar ISO 6579 | 1.05287.0500 | 500 g      |                            |
| RAMBACH® Agar ready-to-use          | 1.46719.0020 | 20 x 90 mm | 100 x 90 mm                |
| RAMBACH® Agar                       | 1.07500.0001 | 4 x 250 ml | 4 x 1000 ml<br>4 x 50 l    |
| Triple Sugar Iron Agar              | 1.03915.0500 | 500 g      |                            |

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