Rappaport Vassiliadis Modified Semisolid Medium Base
Art. No. 03-376

Also known as
MSRV

Specification
Semisolid medium used for the isolation of motile strains of Salmonella.

Formula* in g/L

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount (g/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tryptose</td>
<td>4,590</td>
</tr>
<tr>
<td>Casein peptone</td>
<td>4,590</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>7,340</td>
</tr>
<tr>
<td>Potassium dihydrogen phosphate</td>
<td>1,470</td>
</tr>
<tr>
<td>Magnesium chloride anhydrous</td>
<td>10,930</td>
</tr>
<tr>
<td>Malachite green</td>
<td>0,037</td>
</tr>
<tr>
<td>Agar</td>
<td>2,700</td>
</tr>
</tbody>
</table>

Final pH 5.2 ± 0.2 at 25°C

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

Directions
Suspend 31.6 g of powder in 1 L of distilled water. Heat in a boiling water bath until completely dissolved.
Cool to 50°C and add 20 mg/L of Novobiocin Selective Supplement (06-147-LYO). Without autoclaving or reheating, homogenize and pour plates. Keep plates in a cool place to allow the gel to settle (1 hour aprox.). Handle with care as the medium is semisolid and may spill. It is recommended keeping MSRV plates in the dark, at (2-8°C).

Description
The Modified Semisolid Rappaport Vassiliadis Medium Base is formulated according to DeSmedt et al. This formulation shows improved efficiency over traditional enrichment methodologies. The rapid migration of motile strains of Salmonella in the semisolid medium allows early detection due to the production of a halo of growth around the inoculation zone. Other competitive motile organisms are inhibited by novobiocin, malachite green and the high concentration of magnesium chloride. The low concentration of agar produces a very soft and fragile gel which, at the temperature of incubation (42°C), allows the motile strains of Salmonella to move easily and quickly.

Technique
1. Three drops (~ 0.1 mL) of a pre-enrichment culture are inoculated in three different spots on the dry surface of the Agar plate at room-temperature.
2. Incubate the plates aerobically in an upright position for no longer than 24 hours at 42°C.
3. The formation of a turbid or opaque halo around the initial inoculation zone shows the presence of motile salmonellae.
4. To confirm the purity of the isolation and to carry out confirmative identification tests, samples from the outer border of the halo can be used.
5. To prevent false negative results due to the absence of motile strains of Salmonella in the samples it is advisable to simultaneously perform a standard enrichment procedure in liquid medium.

Necessary supplements
Novobiocin Selective Supplement (Art. No. 06-147-LYO)
Vial Contents:
Necessary amount for 500 mL of complete medium.
Novobiocin, sodium salt ........................................ 20,00 mg
Distilled water (Solvent)

References

Storage
For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4°C to 30°C and <60% RH).

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Quality control

Incubation temperature: 42°C ± 0,5
Incubation time: 24 - 48 h
Inoculum: Pre-enrichment 4 h and inoculate 3 drops on the surface of the plate.

<table>
<thead>
<tr>
<th>Microorganism</th>
<th>Growth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Pseudomonas aeruginosa</em> ATCC 27853</td>
<td>Inhibited</td>
<td></td>
</tr>
<tr>
<td><em>Salmonella enteritidis</em> ATCC 13076</td>
<td>Good</td>
<td>Medium turns yellow-white. Motility+</td>
</tr>
<tr>
<td><em>Salmonella typhimurium</em> ATCC 14028</td>
<td>Good</td>
<td>Medium turns yellow-white. Motility+</td>
</tr>
</tbody>
</table>

Uninoculated plate (Control)

Salmonella typhimurium ATCC 14028
Motility (+)