



## Rappaport Vassiliadis Soyabean Meal Broth (RVSM Broth)

LQ264X

Recommended as a selective enrichment medium for the *Salmonella* species, from the food & animal feeding stuffs.

### Composition\*\*

Ingredients	Gms / Litre
Soya peptone	4.500
Sodium chloride	7.200
Dipotassium hydrogen phosphate	0.180
Potassium dihydrogen phosphate	1.260
Magnesium chloride, hexahydrate	28.600
Malachite green, oxalate	0.036
Final pH ( at 25°C)	5.2±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Label the ready to use LQ264X bottle. Inoculate the sample and Incubate at specified temperature and time.

### Principle And Interpretation

Rappaport Vassiliadis Soyabean Meal Broth (RVSM) is as per the specification laid down in ISO 6579 for the selective enrichment medium for isolation of *Salmonella* (3). Rappaport Vassiliadis Soyabean Meal Broth (RVSM) is modification of the Rappaport Vassiliadis Enrichment Broth, revised by van Schothorst (5,7,8). Van Schothorst modified the original formula by addition of dipotassium hydrogen phosphate to buffer the medium and addition of magnesium chloride to enhance the reliability of enrichment broth. Peterz (4) et al have also emphasized the importance of the concentration of magnesium chloride in the final medium.

The test specimen is added to Buffered Peptone Water (M1494I) and incubated at 34-36°C for 16-20 hours. This pre-enriched Buffered peptone water culture is inoculated into RVSM Broth and incubated at  $41.5 \pm 1^\circ\text{C}$  for  $24 \pm 3$  hours and further subcultured on XLD Agar (M031I) and Brilliant Agar w/ Phosphates (M016) or Bismuth sulphite Agar (M027). Further confirmation is carried out by isolation and biochemicals.

The medium contains soya peptone which provides essential growth nutrients. Magnesium chloride raises the osmotic pressure in the medium. Malachite green is inhibitory to organisms other than *Salmonellae*. The low pH of the medium, combined with the presence of malachite green and magnesium chloride, helps to select for the highly resistant *Salmonella* species. Phosphates buffer the medium to maintain the constant pH. Sodium chloride maintains the osmotic balance.

### Type of specimen

Food, milk and milk products, animal feed, environmental samples

### Specimen Collection and Handling

For Food, milk and milk products, animal feed, environmental samples samples, follow appropriate techniques for sample collection and processing as per guidelines (3,6).

After use, contaminated materials must be sterilized by autoclaving before discarding.

### Warning and Precautions

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets

### Limitations

1. Further subculturing on selective media is required for isolation.

## Quality Control

### Appearance

Sterile clear Rappaport Vassiliadis Soyabean Meal Broth in bottles.

### Colour

Bluish green coloured solution.

### Quantity of medium

10 ml of medium in bottles.

### Reaction

5.00- 5.40

### Sterilization Method

Sterilized by autoclaving at 115 °C as per validated cycle

### Sterility Assurance Level

Sterility assurance level of media was validated against *B.subtilis* Spore strips . The spore strips exposed at 115°C and unexposed strips were inoculated seperately in 100ml Soyabean Casein Digest Medium and incubated at 35°C for 7 days.

### Exposed spore strips

No growth observed

### Unexposed spore strips

Luxuriant growth observed

### Sterility test

Passes release criteria

### Cultural Response

Cultural characteristics observed after incubation at 41.5 ±1°C for 24 ± 3 hours. Recovery is carried out using XLD Agar , Modified (M031I).

Organism	Inoculum (CFU)	Growth on XLD Agar	Recovery on XLD Agar	Colour of colony on XLD Agar
<i>Salmonella</i> Enteritidis ATCC 13076 (00030*)	50-100	good-luxuriant	≥50%	red colonies w/black centre
<i>Salmonella</i> Typhimurium ATCC 14028 (00025 *)	50-100	good-luxuriant	≥50%	red colonies w/black centre
<i>Pseudomonas aeruginosa</i> ATCC 27853 (00013*)	50-100	none-poor	≤10%	
<i>Escherichia coli</i> ATCC 25922 (00013*)	50-100	none-poor	≤10%	
<i>Escherichia coli</i> ATCC 8739 (00012*)	50-100	none-poor	≤10%	
<i>Enterococcus faecalis</i> ATCC 29212 (00087*)	50-100	none-poor	≤10%	
<i>Enterococcus faecalis</i> ATCC 19433 (00009*)	50-100	none-poor	≤10%	

Key : (\*) Corresponding WDCM numbers.

## Storage and Shelf Life

Store between 15-25°C. Use before expiry date on the label.

## Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (1,2).

## Reference

1. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2<sup>nd</sup> Edition.
2. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

3. Microbiology of food chain- Horizontal method for the detection, enumeration and serotyping of Salmonella -Part I Detection of Salmonella spp. International Organization for Standardization (ISO),6579-1:2017.
4. Peterz M., Wiberg C. and Norberg P., 1989, J. Appl. Bacteriol., 66,523-528.
5. Rappaport F., Konforti N. and Navon B., 1956, J. Clin. Pathol., 9, 261-266
6. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
7. Van Schothorst M., Renauld A. and VanBeek C., 1987, Food Microbiol., 4:11-18.
8. Van Schothorst M. and Renauld A., 1983, J. Appl. Bacteriol., 54:209-215.

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