



Rappaport Vassiliadis Medium

M880

Intended Use:

Recommended for enrichment of *Salmonellae*, based on its ability to multiply selectively at high osmotic pressure, low pH and at 43°C, with modest nutritional requirements.

Composition**

Ingredients	Gms / Litre
Soya peptone	4.500
Sodium chloride	7.200
Potassium dihydrogen phosphate	1.440
Magnesium chloride	36.000
Malachite green	0.036
Final pH (at 25°C)	5.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 49.17 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Dispense as desired into tubes and sterilize by autoclaving at 10 lbs pressure (115°C) for 15 minutes.

Principle And Interpretation

Rappaport Vassiliadis Medium is designed according to the revised formulation by Van Schothorst et al (5) and is recommended for the selective enrichment of *Salmonellae* from food and environmental specimens. Present medium is a modification of the Rappaport Vassiliadis Enrichment Broth described by Van Schothorst and Renaud (6). Addition of magnesium chloride to the medium was reported by Peterz et al (3). *Salmonella* species can be isolated from human faeces without pre-enrichment by using this medium.

Salmonella generally survive at little high osmotic pressure, grow at slightly low pH and are resistant to malachite green compared to other bacteria.

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 *Salmonella*. 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. Potassium phosphate buffers the medium to maintain the constant pH. Sodium chloride maintains the osmotic balance.

Type of specimen

Food samples; Environmental samples

Specimen Collection and Handling:

For foods samples, follow appropriate techniques for sample collection and processing as per guidelines (4). 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. Due to nutritional variations some strains may show poor growth.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Light yellow to light blue homogeneous free flowing powder

Colour and Clarity of prepared medium

Bluish green coloured, clear to slightly opalescent solution with slight precipitate

Reaction

Reaction of 4.92% w/v aqueous solution at 25°C. pH : 5.2±0.2

pH

5.00-5.40

Cultural Response

Cultural characteristics observed after an incubation at 42-43°C for 18-24 hours. After incubation, subculture on selective agar media like MacConkey Agar (M081) or XLD Agar (M031) and incubate at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth at 42±1°C	Recovery	Colour of Colony on M081
<i>Escherichia coli</i> ATCC 25922 (00013*)	50-100	none-poor	≤10%	pink-red
<i>Salmonella</i> Enteritidis ATCC 13076 (00030*)	50-100	good-luxuriant	≥50%	colourless
<i>Salmonella</i> Typhi ATCC 6539	50-100	good-luxuriant	≥50%	colourless
<i>Salmonella</i> Typhimurium ATCC 14028 (00031*)	50-100	good-luxuriant	≥50%	colourless

* - Corresponding WDCM Numbers

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.

Product performance is best if used within stated expiry period.

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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (1,2).

Reference

1. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd 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. Peterz M., Wiberg C. and Norberg P., 1989, J. Appl. Bact., 66:523.
4. 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.
5. Van Schothorst M., Renauld A. and VanBeek C., 1987, Food Microbiol., 4:11.
6. Van Schothorst M. and Renauld A., 1983, J. Appl. Bact., 54:209.

Revision : 03/2020

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