

Rappaport Vassiliadis Soya HiCynth™ Broth (RVS HiCynth™ Broth)

MCD1491

Rappaport Vassiliadis Soya HiCynth™ Broth (RVS HiCynth™ Broth) is recommended as a selective enrichment medium for the *Salmonellae* species from the food, animal feeding stuffs and clinical samples.

Composition**

Ingredients	Gms / Litre
HiCynth™ peptone No. 4*	4.500
Sodium chloride	8.000
Potassium dihydrogen phosphate	0.600
Dipotassium phosphate	0.400
Magnesium chloride. hexahydrate	29.000
Malachite green	0.036
Final pH (at 25°C)	5.2±0.2

**Formula adjusted, standardized to suit performance parameters

*Chemically defined peptone

Directions

Suspend 27.11 grams (the equivalent weight of dehydrated medium per litre) in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense into tubes or flasks as desired. Sterilize by autoclaving at 115°C for 15 mins.

Principle And Interpretation

Rappaport Vassiliadis Soya Broth is designed according to the revised formulation by Van Schothorst et al (1) and is recommended for the selective enrichment of *Salmonellae* from pharmaceutical products. Present medium is a modification of the Rappaport Vassiliadis Enrichment Broth described by Van Schothorst and Renaud (2). Rappaport Vassiliadis Soya HiCynth™ Broth is prepared by completely replacing animal or vegetable peptones with chemically defined peptones to avoid BSE/TSE risks associated with animal peptones. This medium can also be used in direct enrichment of samples containing low inoculum. 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. These characteristics are exploited in this medium for selective enrichment of *Salmonella*. Magnesium chloride present in the medium raises the osmotic pressure.

HiCynth™ Peptone No. 4 provide nitrogenous and carbanaceous compounds, long chain amino acids, vitamins and essential growth nutrients to enhance the growth of *Salmonella* (4). Phosphate buffers the medium to maintain constant pH. Sodium chloride maintains the osmotic balance. Malachite green inhibits many gram-positive bacteria, while selectively enrich *Salmonella*. The relatively lower concentration of nutrition, also aids selective enrichment of *Salmonella*. This medium was reported to be superior to *Salmonella* selective medium like Tetrathionate Broth and Selenite enrichment broth and to Tetrathionate-Brilliant Green Broth for the detection of *Salmonellae* in milk samples. The enriched culture of Rappaport Vassiliadis Soya HiCynth™ Broth (MCD1491) can be further subcultured and isolated on Brilliant Green HiCynth™ Agar (MCD016) or Deoxycholate Citrate HiCynth™ Agar (MCD065), Xylose Lysine Deoxycholate HiCynth™ Agar (MCD031).

Quality Control

Appearance

Light yellow to light blue homogeneous free flowing powder

Colour and Clarity of prepared medium

Greenish blue clear to slightly opalescent with a slight precipitate.

Reaction

Reaction of 2.71% w/v aqueous solution at 25°C. pH : 5.2±0.2

pH

5.00-5.40

Cultural Response

Cultural response was observed after an incubation at 30-35°C for 18-24 hours Recovery is carried out using Xylose Lysine Deoxycholate HiCynth™ Agar (MCD031) after enrichment.

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Cultural Response				
<i>Salmonella Typhimurium</i> ATCC 14028	50 -100	luxuriant	>=70 %	red with black centers
<i>Salmonella Abony</i> NCTC 6017	50 -100	luxuriant	>=70 %	red with black centers
<i>Staphylococcus aureus</i> ATCC 6538	>=10 ³	inhibited	0%	
<i>Escherichia coli</i> ATCC 25922	50 -100	none-poor	0 -10 %	yellow
<i>Escherichia coli</i> ATCC 8739	50 -100	none-poor	0 -10 %	yellow
<i>Salmonella Enteritidis</i> ATCC 13076	50 -100	luxuriant	>=70 %	red with black centre
<i>Salmonella Paratyphi B</i> ATCC 8759	50 -100	luxuriant	>=70 %	red with black centre
<i>Staphylococcus aureus</i> ATCC 25923	>=10 ³	inhibited	0%	
<i>Enterococcus faecalis</i> ATCC 29212	>=10 ³	inhibited	0%	
E.coli +S.Typhimurium (mixed culture)				
<i>Salmonella Typhimurium</i> ATCC 14028	50 -100	luxuriant	>=70 %	red with black centre

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

- 1.Van Schothorst M., Renauld A. and VanBeek C., 1987, Food Microbiol., 4:11.
- 2.Van Schothorst M. and Renauld A., 1983, J. Appl. Bact., 54:209.
- 3.Peterz M., Wiberg C. and Norberg P., 1989, J. Appl. Bact., 66:523
- 4.McGibbon L., Quail E. and Fricker C.R. 1984, Inter. J. Food Microbiol. 1:171

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