

Instructions for Use

CRITERION™ RAPPAPORT-VASSILIADIS (MSRV) MEDIUM BASE

Cat. no. C6740	CRITERION™ Rappaport-Vassiliadis (MSRV) Medium Base	63.2gm
Cat. no. C6741	CRITERION™ Rappaport-Vassiliadis (MSRV) Medium Base	500gm
Cat. no. C6742	CRITERION™ Rappaport-Vassiliadis (MSRV) Medium Base	2kg
Cat. no. C6743	CRITERION™ Rappaport-Vassiliadis (MSRV) Medium Base	10kg
Cat. no. C6744	CRITERION™ Rappaport-Vassiliadis (MSRV) Medium Base	50kg

INTENDED USE

Hardy Diagnostics CRITERION™ Rappaport-Vassiliadis (MSRV) Medium Base, with added novobiocin, is used in the detection and isolation of motile *Salmonella* spp. in feces and food products.

This dehydrated culture medium is a raw material intended to be used in the making of prepared media products, which will require further processing, additional ingredients, or supplements.

SUMMARY

Rappaport-Vassiliadis (MSRV) Medium, a modification of Rappaport-Vassiliadis Enrichment Broth, is used for detecting motile *Salmonella* in feces and food products following pre-enrichment or selective enrichment.⁽¹⁾ This semi-solid medium allows motility to be detected as halos of growth around the original inoculation point. MSR/V Medium may be used as a plating medium for isolating *Salmonella* spp. (other than *S. typhi* and *S. paratyphi* type A) from stool specimens with high sensitivity and specificity.^(17,18)

This medium is recommended by the European Chocolate Manufacturer's Association. A collaborative study conducted with the support of the American Cocoa Research Institute (ACRI) and the Canadian Chocolate Manufacturer's Association (CCMA) resulted in first action adoption of the MSR/V method by AOAC International.⁽¹⁶⁾

Tryptose and casein hydrolysate are used as carbon and nitrogen sources. A high concentration of magnesium chloride was included to inhibit growth of *Proteus* and *Escherichia coli*. Novobiocin and malachite green inhibit organisms other than *Salmonella*. The combination of the low pH of the medium with novobiocin, malachite green, and magnesium chloride select for highly resistant *Salmonella* spp.

FORMULA

Gram weight per liter:	31.6gm/L
Magnesium Chloride	10.93gm

Sodium Chloride	7.34gm
Casein Acid Hydrolysate	4.59gm
Tryptose	4.59gm
Monopotassium Phosphate	1.47gm
Malachite Green	37.0mg
Agar	2.7gm

Final pH 5.2 +/- 0.2 at 25°C.

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

STORAGE AND SHELF LIFE

Store the sealed bottle(s) containing dehydrated culture medium at 2-30°C. Dehydrated culture medium is very hygroscopic. Keep lid tightly sealed. Protect dehydrated culture media from moisture and light. The dehydrated culture media should be discarded if it is not free-flowing or if the color has changed from its original light blue.

Store the prepared culture media at 2-30°C.

The expiration date on the product label applies to the product in its intact packaging when stored as directed. The product may be used and tested up to the expiration date on the product label and incubated for the recommended incubation times as stated below.

Refer to the document "[Storage](#)" for more information.

PRECAUTIONS

This product may contain components of animal origin. Certified knowledge of the origin and/or sanitary state of the animals does not guarantee the absence of transmissible pathogenic agents. Therefore, it is recommended that these products be treated as potentially infectious, and handle observing the usual universal blood precautions. Do not ingest, inhale, or allow to come into contact with skin.

This product is for laboratory use only. It is to be used only by adequately trained and qualified laboratory personnel. Observe approved biohazard precautions and aseptic techniques. All laboratory specimens should be considered infectious and handled according to "standard precautions." Refer to the document "[Guidelines for Isolation Precautions](#)" from the Centers for Disease Control and Prevention.

For additional information regarding specific precautions for the prevention of the transmission of all infectious agents from laboratory instruments and materials, and for recommendations for the management of exposure to infectious disease, refer to CLSI document M29: *Protection of Laboratory Workers from Occupationally Acquired Infections*.

Sterilize all biohazard waste before disposal.

Refer to the document "[Precautions When Using Media](#)" for more information.

METHOD OF PREPARATION FOR DEHYDRATED CULTURE MEDIA

1. Suspend 31.6gm of the dehydrated culture media in 1 liter of distilled or deionized water.
2. Heat to boiling and mix to dissolve completely.
3. Do not autoclave.
4. Cool base medium to 45-50°C.

5. Aseptically add 1ml of a 2% (20mg/L) filter sterilized solution of novobiocin.

6. Mix well and dispense as desired.

PROCEDURE AND INTERPRETATION OF RESULTS

For information on procedures and interpretation of results, consult listed references.

LIMITATIONS

It is recommended that biochemical, immunological, molecular, or mass spectrometry testing be performed on colonies from pure culture for complete identification.

Some formulations may require a settling period before pH testing of the prepared medium. If the pH is tested immediately after preparation and is out of specification, retest the medium after 24 hours to obtain final pH results. Always take pH reading at room temperature.

The combination of malachite green, magnesium chloride and a low pH may inhibit certain *Salmonella*, such as *S. typhi* and *S. choleraesuis*.

Salmonella gallinarum is non-motile and does not produce a zone of turbidity.

Refer to the document "[Limitations of Procedures and Warranty](#)" for more information.

MATERIALS REQUIRED BUT NOT PROVIDED

Standard microbiological supplies and equipment such as autoclaves, incinerators, incubators, and novobiocin solution, etc., are not provided.

QUALITY CONTROL

Hardy Diagnostics tests each lot of commercially manufactured media using appropriate quality control microorganisms and quality specifications as outlined on the Certificate of Analysis (CofA) and the CLSI document M22-A3 *Quality Assurance for Commercially Prepared Microbiological Culture Media*. The following microorganisms are routinely used for testing at Hardy Diagnostics:

Test Organisms	Inoculation Method*	Incubation			Results
		Time	Temperature	Atmosphere	
<i>Salmonella enterica</i> ATCC® 14028	**	18-24hr	35°C	Aerobic	Growth; positive motility indicated by a halo of >20mm
<i>Citrobacter freundii</i> ATCC® 8090	**	18-24hr	35°C	Aerobic	Partial to complete inhibition; negative motility
<i>Pseudomonas aeruginosa</i> ATCC® 27853	**	18-24hr	35°C	Aerobic	Inhibited

* Refer to the document "[Inoculation Procedures for Media QC](#)" for more information.

USER QUALITY CONTROL

Users of dehydrated culture media should perform QC testing in accordance with applicable government regulatory agencies, and in compliance with accreditation requirements. Hardy Diagnostics recommends end users check for signs of contamination and deterioration and, if dictated by laboratory quality control procedures or regulation, perform

quality control testing to demonstrate growth or a positive reaction and to demonstrate inhibition or a negative reaction, if applicable. Hardy Diagnostics quality control testing is documented on the certificate of analysis (CofA) available from Hardy Diagnostics [Certificate of Analysis](#) website. In addition, refer to the following document "[Finished Product Quality Control Procedures](#)," for more information on QC or see the reference(s) for more specific information.

** Refer to the Procedure section above.

PHYSICAL APPEARANCE

CRITERION™ Rappaport-Vassiliadis (MSRV) Medium Base powder should appear homogeneous, free-flowing, and light blue in color. The prepared media should appear slightly opalescent, and blue in color.

REFERENCES

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ATCC is a registered trademark of the American Type Culture Collection.

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1430 West McCoy Lane, Santa Maria, CA 93455, USA

Phone: (805) 346-2766 ext. 5658

Fax: (805) 346-2760

Website: HardyDiagnostics.com

Email: TechnicalServices@HardyDiagnostics.com

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