IFU

Instructions for Use

CRITERION™ RAPPAPORT-VASSILIADIS R10 BROTH

Cat. no. C6730	CRITERION™ Rappaport-Vassiliadis R10 Broth	54.1gm
Cat. no. C6731	CRITERION™ Rappaport-Vassiliadis R10 Broth	500gm
Cat. no. C6732	CRITERION™ Rappaport-Vassiliadis R10 Broth	2kg
Cat. no. C6733	CRITERION™ Rappaport-Vassiliadis R10 Broth	10kg
Cat. no. C6734	CRITERION™ Rappaport-Vassiliadis R10 Broth	50kg

INTENDED USE

Hardy Diagnostics CRITERION™ Rappaport-Vassiliadis R10 Broth is recommended for the selective enrichment of *Salmonella* spp. from food and environmental specimens.

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 medium was initially developed by Rappaport, et al., in 1956 as an alternative to Tetrathionate Broth for the enrichment of *Salmonella*.[1] A high concentration of magnesium chloride was included to inhibit growth of *Proteus* spp. and *Escherichia coli*. The addition of malachite green inhibits coliforms. The low pH also inhibits microorganisms other that *Salmonella*. In 1976, Vassiliadis, et al., described a modification of Rappaport medium called R10. This formula featured a reduced amount of malachite green.[2] CRITERION™ Rappaport-Vassiliadis R10 Broth is based on this formula.

FORMULA*

Gram weight per liter:	26.6gm/L
Magnesium Chloride	13.4gm
Sodium Chloride	7.2gm
Pancreatic Digest of Casein	4.54gm
Potassium Phosphate	1.45gm
Malachite Green	36.0mg

Final pH 5.1 +/- 0.2 at 25ºC.

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

STORAGE AND SHELF LIFE

Store the sealed bottle(s) containing dehydrated culture medium at 2-30ºC. 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 pale green.

Store the prepared culture media at 2-30ºC.

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 27.0gm of the dehydrated culture media in 1 liter of distilled or deionized water. Stir to mix thoroughly.

2. Heat as necessary to dissolve completely. Do not overheat.

3. Sterilize in the autoclave at 116ºC. for 15 minutes.

PROCEDURE AND INTERPRETATION OF RESULTS

For information on procedures and interpretation of results, consult listed references or refer to the prepared media Instructions for Use (IFU) for Cat. No. K167.

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.

Rappaport-Vassiliadis R10 Broth is a selective enrichment for *Salmonella*. Other biochemical and/or serological tests must be performed for complete identification. See listed references.[3,5,6,8-10]

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, and incubators, 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	
Salmonella enterica ATCC® 14028	A	18-24hr	35°C	Aerobic	Growth when subcultured to XLD Agar
Escherichia coli ATCC® 25922	B	18-24hr	35°C	Aerobic	Inhibited when subcultured to XLD Agar

* 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.

PHYSICAL APPEARANCE

CRITERION™ Rappaport-Vassiliadis R10 Broth powder should appear homogeneous, free-flowing, and pale green in color. The prepared media should appear clear, and blue-green in color.

REFERENCES

1. Rappaport, F., et al. 1956. *J. Clin. Path.*; 9:261-266.

2. Vassiliadis, P., et al. 1978. *J. Appl. Bact.*; 44:233-239.

3. Jorgensen., et al. *Manual of Clinical Microbiology*, American Society for Microbiology, Washington, D.C.

4. Tille, P., et al. *Bailey and Scott's Diagnostic Microbiology*, C.V. Mosby Company, St. Louis, MO.

5. Isenberg, H.D. *Clinical Microbiology Procedures Handbook*, Vol. I, II & III. American Society for Microbiology, Washington, D.C.

6. Koneman, E.W., et al. *Color Atlas and Textbook of Diagnostic Microbiology*, J.B. Lippincott Company,

Philadelphia, PA.

7. MacFaddin, J.F. 1985. *Media for Isolation, Cultivation, Identification, Maintenance of Bacteria*, Vol. I. Williams & Wilkins, Baltimore, MD.

8. FDA. 1995. *Bacteriological Analytical Manual*, 8th ed. FDA.

9. Marshall, R.T., ed. 1992. *Standard Methods for the Examination of Dairy Products*, 16th ed. APHA, Washington, D.C.

10. Vanderzant, C. and D.F. Splittstoesser, (ed.). 1992. *Compendium of Methods for the Microbiological Examination of Foods*, 3rd ed. APHA, Washington, D.C.

11. Greenberg, A.E., et al. (ed.). 1992. *Standard Methods for the Examination of Water and Wastewater*, 18th ed. APHA, Washington, D.C.

12. *U.S. Pharmacopeia*, 22nd rev. 1990. U.S. Pharmacopeial Convention, Rockville, MD.

13. *Quality Assurance for Commercially Prepared Microbiological Culture Media*, M22. Clinical and Laboratory Standards Institute (CLSI - formerly NCCLS), Wayne, PA.

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The Hardy Diagnostics manufacturing facility and quality management system is certified to ISO 13485.

HDQA 2207B [D]