

Instructions for Use

CRITERION™ LACTOBACILLI MRS BROTH

Cat. no. C5930	CRITERION™ Lactobacilli MRS Broth	110gm
Cat. no. C5931	CRITERION™ Lactobacilli MRS Broth	500gm
Cat. no. C5932	CRITERION™ Lactobacilli MRS Broth	2kg
Cat. no. C5933	CRITERION™ Lactobacilli MRS Broth	10kg
Cat. no. C5934	CRITERION™ Lactobacilli MRS Broth	50kg

INTENDED USE

Hardy Diagnostics CRITERION™ Lactobacilli MRS Broth is used for the isolation, enumeration and cultivation of *Lactobacillus* spp.

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

MRS Broth was developed by deMan, et al. to support luxuriant growth of all lactobacilli from oral, fecal, dairy and other sources.⁽⁶⁾ Lactobacilli MRS Broth is an improved medium for lactobacilli, it supports good growth and is particularly useful for a number of fastidious strains which grow poorly on other general media. In addition, tomato juice is not required. In a slightly modified form, it can also be used as a basal medium for fermentation tests.

Lactobacilli MRS Broth contains peptones and dextrose which supply nitrogen and carbon. Tween® 80, acetate, magnesium and manganese provide growth factors for culturing a variety of lactobacilli. These ingredients may inhibit the growth of some organisms other than lactobacilli.

FORMULA

Gram weight per liter:	55.0gm/L
Dextrose	20.0gm
Peptic Digest of Animal Tissue	10.0gm
Beef Extract	10.0gm
Yeast Extract	5.0gm
Sodium Acetate	5.0gm
Disodium Phosphate	2.0gm

Ammonium Citrate	2.0gm
Tween [®] 80	1.0gm
Magnesium Sulfate	0.1gm
Manganese Sulfate	0.05gm

Final pH 6.5 +/- 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 2-8°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 homogeneous, moist, and lumpy or if the color has changed from its original tan.

Store the prepared culture media at 2-8°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 55.0gm of the dehydrated culture media in 1 liter of distilled or deionized water.
2. Heat to boiling and mix to dissolve completely.
3. Dispense into tubes or containers as desired. Durham tubes can be added when testing for gas production.
4. Sterilize in the autoclave at 121°C. 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. K15.

LIMITATIONS

Organisms other than lactobacilli may grow in this media.

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.

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	
<i>Weisella paramesenteroides</i> ATCC® 33313	A	1-7 days	35°C	Aerobic	Growth; gas positive
<i>Lactobacillus acidophilus</i> ATCC® 4356	A	1-7 days	35°C	Aerobic	Growth; gas negative

* 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™ Lactobacilli MRS Broth powder should appear homogeneous, moist, and lumpy, and tan in color. The prepared media should appear clear, with a slight opalescence, and dark amber in color.

REFERENCES

1. Jorgensen., et al. *Manual of Clinical Microbiology*, American Society for Microbiology, Washington, D.C.
2. Tille, P., et al. *Bailey and Scott's Diagnostic Microbiology*, C.V. Mosby Company, St. Louis, MO.
3. Isenberg, H.D. *Clinical Microbiology Procedures Handbook*, Vol. I, II & III. American Society for Microbiology, Washington, D.C.
4. Koneman, E.W., et al. *Color Atlas and Textbook of Diagnostic Microbiology*, J.B. Lippincott Company, Philadelphia, PA.
5. MacFaddin, J.F. 1985. *Media for Isolation, Cultivation, Identification, Maintenance of Bacteria*, Vol. I. Williams & Wilkins, Baltimore, MD.
6. deMan, Rogosa and Sharpe. 1960. *Journal of Applied Bacteriology*; 23(1) 130-135.

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Tween is a registered trademark of ICI Americas, Inc.

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[Ordering Information](#)

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