IFU

Instructions for Use

ELLIKER AGAR

Cat. no. G256	Elliker Agar, 15x100mm Plate, 15ml	10 plates/bag

INTENDED USE

Hardy Diagnostics Elliker Agar is recommended for the cultivation of streptococci, particularly in dairy procedures.

This product is not intended to be used for the diagnosis of human disease.

SUMMARY

Tests for lactic acid bacteria in dairy foods may help provide information on the cause of acid product defects, may be used for evaluating lactic starter cultures, and may aid in controlling the quality and taste of cured cheese, cultured milks, and uncultured products.[3-5] The most common lactic acid bacteria found in dairy products are *Streptococcus*, *Lactococcus*, *Leuconostoc*, and *Lactobacillus* spp.

Elliker Agar is a modification of Elliker Broth and is prepared in accordance with the formulation proposed by Elliker, Anderson, and Hannesson, and later modified by McLaughlin.[1,2] The medium is made slightly acidic by the addition of ascorbic acid, and contains peptones, nitrogen, and amino acids to support the growth of streptococci and lactocbacilli. Sodium chloride is added to maintain osmotic balance and sodium acetate is selective against unwanted gram-negative bacteria that may be in the sample. Elliker Agar also, along with agar to make the medium useful for enumeration of lactic acid bacteria.[3]

FORMULA

Ingredients per liter of deionized water:*

Pancreatic Digest of Casein	20.0g
Yeast Extract	5.0g
Dextrose	5.0g
Lactose	5.0g
Saccharose	5.0g
Sodium Chloride	4.0g
Gelatin	2.5g
Sodium Acetate	1.5g
Ascorbic Acid	0.5g
Agar	15.0g

Final pH 6.8 +/- 0.2 at 25ºC.

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

STORAGE AND SHELF LIFE

Storage: Upon receipt, store away from direct light at 2-8ºC. away from direct light. Media should not be used if there are any signs of deterioration (shrinking, cracking, or discoloration), contamination, or if the expiration date has passed. Product is light and temperature sensitive; protect from light, excessive heat, moisture, and freezing.

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.

PROCEDURE

Sample Collection: Consult reference methods for information on sample collection.[3-5] Samples should be submitted directly to the laboratory without delay and protected from excessive heat and cold. If there is to be a delay in processing, the sample should be inoculated onto an appropriate transport medium and refrigerated until inoculation.

Method of Use: Allow medium to warm to room temperature prior to inoculation. Consult references for information concerning inoculation procedures.[3-5]

INTERPRETATION OF RESULTS

Consult listed references for appropriate interpretation of results.[3-5]

Further testing of well isolated colonies is required for complete identification

LIMITATIONS

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

If performing the spread plate technique, it is recommended that no greater than a 1.0ml sample volume be tested/plate to avoid spreading colonies that will be difficult to enumerate.

Fastidious microorganisms may fail to grow on this medium.

Refer to the document "Limitations of Procedures and Warranty" for more information.

MATERIALS REQUIRED BUT NOT PROVIDED

Standard microbiological supplies and equipment such as loops, swabs, applicator sticks, other culture media, incinerators, incubators, etc., as well as serological and biochemical reagents, 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	
Lactobacillus acidophilus ATCC® 4356	A	48hr	35°C	CO_2**	Growth
Escherichia coli ATCC® 25922	A	18-24hr	35°C	Aerobic	Growth

* Refer to the document "Inoculation Procedures for Media QC" for more information.

** Atmosphere of incubation is enriched with 5-10% CO_2.

USER QUALITY CONTROL

End users of commercially prepared 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. Also refer to the document "Finished Product Quality Control Procedures," and the CLSI document M22-A3 *Quality Assurance for Commercially Prepared Microbiological Culture Media* for more information on the appropriate QC procedures. See the references below.

PHYSICAL APPEARANCE

Elliker Agar should appear clear and light to medium amber in color.

REFERENCES

1. Elliker, Anderson, and Hannesson. 1956. *J. Dairy Sci.* 39:1611.

2. McLaughlin. 1946. *J. Bacteriol.* 51:560.

3. American Public Health Association. *Standard Methods for the Examination of Dairy Products,* APHA, Washington, D.C.

4. APHA Technical Committee on Microbiological Methods for Foods. *Compendium of Methods for the Microbiological Examination of Foods,* APHA, Washington, D.C.

5. U.S. Food and Drug Administration. *Bacteriological Analytical Manual.*Arlington, VA
http://www.fda.gov/Food/FoodScienceResearch/LaboratoryMethods/ucm2006949.htm

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Ordering Information

Distribution Centers:
California · Washington · Utah · Arizona · Texas · Ohio · New York · Florida · North Carolina

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

HDQA 2207D [D]