

Product Insert

EGG YOLK AGAR (EYA)

Products

AS-511 Egg Yolk Agar (EYA)

1 plate / pkg

Intended Use

Egg Yolk Agar (EYA) is an enriched, nonselective, and differential medium used for the presumptive differentiation of *Clostridium spp.* and other obligate anaerobes.

Summary

EYA agar is for the presumptive differentiation of clostridia, and other obligate anaerobes, based on lecithinase, lipase, and proteolytic activity. The nutritive base consists of casein, yeast extract, dextrose, and tryptophan. Hemin and vitamin K₁ have been included to improve the growth of anaerobes. A suspension of egg yolk makes the medium differential by allowing for the detection of lecithinase and lipase activity of the microorganisms. The degradation of lecithin in the egg yolks by the organism produces an insoluble opaque precipitate that surrounds the area of growth. An iridescent sheen ("oil on water") on the surface of the colony is observed by lipase positive organisms, due to the breakdown of free fats present in the egg yolk. Clearing of the medium surrounding the colonies is a result of proteolytic organisms. This medium is prepared, dispensed, and packaged under oxygen-free conditions to prevent the formation of oxidized products prior to use.

Formulation*

Pancreatic Digest of Casein	20.00	g
Yeast Extract	5.00	g
Sodium Phosphate Dibasic	5.00	g
Sodium Chloride	2.50	g
Dextrose	2.00	g
Agar	20.00	g
L-Tryptophan	0.20	g
Tween 80	1.00	mL
Magnesium Sulfate Heptahydrate	0.01	g
Sodium Pyruvate	0.50	g
L-Cystine	0.40	g
Hemin (0.1% solution)	5.00	mL
Vitamin K ₁ (1.0% solution)	1.00	mL
Sodium Hydroxide (4.0% solution)	4.00	mL
Egg Yolk Suspension	100.00	mL
DI Water	1.00	L

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

Final pH: 7.2 ± 0.3 at 25° C

Final weight: 16.0 g ± 1.6 g

Precautions

For *IN VITRO DIAGNOSTIC USE* only. Utilize approved biohazard precautions and aseptic technique when using this product. This product is for use only by properly-trained and qualified personnel. Sterilize all biohazard waste prior to disposal.

Storage and Shelf Life

Storage: Upon receipt, store at room temperature in original package until used. Avoid overheating or freezing. Do not use media if there are signs of deterioration (shrinking, cracking, or discoloration due to oxidation of media) or contamination. The expiration date applies to the product in its original packaging and stored as directed. Do not use product past the expiration date shown on the label.

Shelf Life: 90 days from date of manufacture.

Procedure

Specimen Collection: Protect specimens for anaerobic culture from oxygen during collection, transportation, and processing. Consult appropriate references for detailed instructions concerning collection and transportation of anaerobes.

Methods for Use: EYA agar should be inoculated with a pure culture of an isolate for the detection of lipase and/or lecithinase. Streak plates with inoculum to obtain isolated colonies and immediately place into an anaerobic atmosphere, incubating at 35-37°C for 18-48 hours. Extended periods of incubation may be required to recover some anaerobes or for the observation of lipase activity. Detailed instructions for processing anaerobic cultures can be found in the listed references.

Materials Required, But Not Provided

Standard microbiological supplies and equipment such as loops, saline blanks, slides, staining supplies, microscope, incinerator / autoclave, incubators, anaerobic chamber / anaerobic jars, disinfectant, other culture media, and serological / biochemical reagents.

Interpretations of Results

EYA agar should support good growth of obligate anaerobes found in clinical infections. In addition, this media will support typical lecithinase reaction produced by some *Clostridium spp.*, and a lipase reaction produced by some *Fusobacterium* and *Clostridium* species.

Limitations

EYA agar will not provide complete information for identification of bacterial isolates. Additional test procedures and media are required for complete identification. Consult reference materials for additional information.

Quality Control

The following organisms are routinely used for quality control testing at Anaerobe Systems.

Organism Tested	ATCC #	Results	Time	Special Reaction
Bacteroides fragilis	25285	Growth	24 hrs	
Prevotella melaninogenica	25845	Growth	24 – 48 hrs	
Fusobacterium necrophorum	25286	Growth	24 hrs	Lipase +
Fusobacterium nucleatum	25586	Growth	24 – 48 hrs	
Clostridium perfringens	13124	Growth	24 hrs	Lecithinase +
Peptostreptococcus anaerobius	27337	Growth	24 hrs	
Staphylococcus aureus	25923	Growth	24 hrs	Lipase +
Propionibacterium acnes	6919	Growth	24 – 48 hrs	
Clostridium difficile	9689	Growth	24 hrs	

User Quality Control: The final determination to the extent and quantity of user laboratory quality control must be determined by the end user.

If sterility testing is to be performed on this product, a representative sample of the lot(s) should be incubated anaerobically and aerobically for 48 – 96 hours.

If the nutritive capacity of this media is to be tested for performance, it is recommended that the following ATCC organisms be evaluated for growth.

Organism	ATCC #	Expected Results	Special Reactions
B. fragilis	25285	24 hrs	
F. necrophorum	25286	48 hrs	Lipase +
C. perfringens	13124	24 hrs	Lecithinase +
C. difficile	9689	24 hrs	

Physical Appearance: EYA agar should appear opaque and light yellow in color.

References

1. Dowell, V. R., Jr., G. L. Lombard, F. S. Thompson and A. Y. Armfield. 1977. *Media for the Isolation, Characterization and Identification of Obligately Anaerobic Bacteria*. USDHHS, CDC. Atlanta, GA 30333.
2. Engelkirk, P. G., Duben-Engelkirk, J. and Dowell, V. R. 1992. *Principles and Practices of Clinical Anaerobic Bacteriology*. Star Publishing Co., Belmont, CA 94002.
3. Holdeman, L. V., F. P. Cato and W. E. C. Moore. 1987. *Anaerobe Laboratory Manual*. Virginia Polytechnic Institute and State University. Blacksburg, VA 24061
4. Jousimeis-Somer, H. R., Summanen, P., Citron, D. M., Baron, E. J., Wexler, H. M. and S. M. Finegold. 2002. *Wadsworth – KYL Anaerobic Bacteriology Manual*. Star Publishing Co., Belmont, CA 94002.
5. CLSI. *Quality Control for Commercially Prepared Microbiological Culture Media; Approved Standard- Third Edition*. (2004). CLSI document M22-A3. CLSI, 940 West Valley Road, Suite 1400, Wayne, PA 19087-1898.

Revision Date: 10/25/17