Product Insert

PHENYLETHYL ALCOHOL BLOOD AGAR (PEA)

Products

AS-113	Phenylethyl Alcohol Blood Agar (PEA)	1 plate / pkg
AS-143	Phenylethyl Alcohol Blood Agar (PEA)	4 plates / pkg

The following products contain PEA as one of multiple components

AS-322	BRU Mono / BBE-PEA Biplate	1 plate each / pkg
AS-303	BRU Mono / LKV Mono / PEA Mono	1 plate each / pkg
AS-323	BRU Mono / PEA Mono / BBE-LKV Biplate	1 plate each / pkg
AS-444	BRU Mono / PEA Mono / LKV Mono / BBE Mono	1 plate each / pkg

Intended Use

Phenylethyl Alcohol Blood Agar (PEA) is an enriched selective medium used for the inhibition of facultative gram-negative rods and to inhibit the swarming of certain *Clostridium* species and *Proteus* species from clinical specimens.

Summary

PEA agar has a nutritive base that consists of casein, soy peptone, meat peptone, yeast extract, dextrose, hemin, and vitamin K_1. The selective agent, phenylethyl alcohol, reversibly inhibits DNA synthesis and thus inhibits facultative anaerobic gram-negative bacteria such as those of the family *Enterobacteriaceae*. This medium will support the growth of most obligate anaerobic bacteria. Morphology of the colonies on PEA are similar to those found on enriched blood agar plates, like Brucella Blood Agar. PEA agar is especially useful in the selective isolation of anaerobes from mixed populations that contain rapidly growing gram-negative bacteria such as *Proteus* species. PEA agar inhibits the swarming by *Proteus spp*. and *Clostridium septicum*. 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	10.00	g
Soy Peptone	3.00	g
Meat Peptone	10.00	g
Dextrose	1.00	g
Yeast Extract	2.00	g
Sodium Chloride	5.00	g
Sodium Bisulfite	0.10	g
Hemin (0.1% solution)	5.00	mL
Vitamin K_1 (1.0% solution)	1.00	mL
L-Cystine	0.40	g
Sodium Hydroxide (4.0% solution)	4.00	mL
Agar	15.00	g
Phenylethyl Alcohol	2.70	mL
Laked Sheep Blood	45.50	mL
DI Water	1.00	L

Final pH: 7.1 ± 0.4 at 25° C
Final weight: 16.0 g ± 1.6 g for Mono plates
Final weight: 8.0 g ± 0.8 g for Biplates

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

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: PEA agar should be inoculated directly with a clinical specimen or from a broth that has been inoculated from a clinical specimen. Streak plates with inoculum to obtain isolated colonies and immediately place in an anaerobic atmosphere, incubating at 35-37°C for 18-48 hours. Extended periods of incubation may be required to recover some anaerobes. Extended incubation time may also result in loss of selectivity of the medium which can result in the overgrowth of organisms that should be inhibited. 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.

Interpretation of Results

If used properly, PEA will support good growth of most anaerobes found in clinical infections. PEA should inhibit the growth of facultative anaerobic gram-negative rods, like *Escherichia coli* and swarming of *Proteus mirabilis*.

Limitations

PEA agar will not provide complete information for identification of bacterial isolates. Additional test procedures and media are required for complete identification. Some organisms that would normally grow on PEA agar may be inhibited. It is recommended that a non-selective medium, such as Brucella Blood Agar (BRU, catalog #: AS-111) also be inoculated from the same clinical specimen to assure recovery of all species present. Some strains of facultative organisms (which should be inhibited) may grow on PEA. A test for aerotolerance should be performed to confirm that each colony type is an obligate anaerobe. Consult reference materials for additional information.

Quality Control

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

Organism Tested	ATCC #	Results	Time
Bacteroides fragilis	25285	Growth	24 hrs
Prevotella melaninogenica	25845	No Growth	
Fusobacterium necrophorum	25286	Growth	24 hrs
Fusobacterium nucleatum	25586	No Growth	
Clostridium perfringens	13124	Growth	24 hrs
Peptostreptococcus anaerobius	27337	Growth	24 hrs
Staphylococcus aureus or Enterococcus faecalis	25923 29212	Growth	24 hrs
Escherichia coli	25922	Inhibited to No Growth	
Proteus mirabilis	12453	Inhibited to No Growth	
Propionibacterium acnes or Clostridium difficile	6919 9689	Growth	24 – 48 hrs 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/inhibitory capacity of this media is to be tested for performance, it is recommended that the following ATCC organisms be evaluated for growth/inhibition.

Organism	ATCC#	Expected Growth
B. fragilis	25285	24 hrs
P. melaninogenica	25845	No Growth
F. nucleatum	25586	No Growth
E. coli	25922	Inhibited

Physical Appearance: PEA agar should appear opaque burgundy red 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: 10/19/17