Product Insert

COLUMBIA BLOOD AGAR (CA)

Products

AS-895 Columbia Blood Agar (CA) 4 plates / pkg

Intended Use

Columbia Blood Agar (CA) is intended for the isolation, quantitation, and partial identification of a variety of microorganisms, including fastidious organisms from clinical specimens. CA is suitable for use in antibiotic differential disk examination and spot biochemical testing.

Summary

CA is an enriched non-selective media. It is supplemented with vitamin K_1 and hemin to facilitate the recovery of fastidious anaerobic bacteria. Sheep blood is added for the observation of hemolytic reactions as seen by the double zone β-hemolysis of *Clostridium perfringens,* and for growth factors required by some fastidious microorganisms. This media is prepared, stored, and dispensed under oxygen-free conditions to prevent the formation of oxidized products prior to use.

Formulation*

Pancreatic Digest of Casein	10.00	g
Meat Peptic Digest	5.00	g
Yeast Extract	5.00	g
Heart Pancreatic Digest	3.00	g
Corn Starch	1.00	g
Sodium Chloride	5.00	g
Agar	13.50	g
Hemin (0.1% solution)	5.00	mL
Vitamin K_1 (1.0% solution)	1.00	mL
Sheep Blood	45.50	mL
DI Water	1.00	L

Final pH: 7.3 ± 0.2 at 25 °C
Final weight: 16.0 g ± 1.6 g

*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 container until use. 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 container.

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: CA should be inoculated directly with 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. 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, other culture media, and serological / biochemical reagents.

Interpretations of Results

CA supports good growth of a variety of microorganisms found in clinical infections. In addition, this media should support typical pigment production by *Prevotella melaninogenica* and typical double zone of β-hemolysis around colonies of *Clostridium perfringens*.

Limitations

CA will not provide complete information for identification of bacterial isolates. Additional test procedures and media are required for complete identification. In some cases, CA may be overgrown with swarming *Proteus* spp. or *Clostridium* spp. It is recommended that selective media such as Anaerobic Brucella Laked Blood Agar with Kanamycin and Vancomycin (LKV, catalog #: AS-112) and/or Anaerobic Brucella Blood Agar with Phenylethyl Alcohol (PEA, catalog # AS-113) also be inoculated from clinical specimens to prevent such overgrowth and thus provide isolated colonies. Consult reference materials for additional information.

Quality Control

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

Organism Tested	ATCC #	Results	Time	Special Reaction
Bacteroides fragilis *	25285	Growth	24 hrs	
Prevotella melaninogenica*	25845	Growth	48 hrs	Pigment [t]
Fusobacterium necrophorum	25286	Variable	48 hrs	
Fusobacterium nucleatum *	25586	Growth	24 hrs	
Clostridium perfringens *	13124	Growth	24 hrs	Double Zone of β-hemolysis
Peptostreptococcus anaerobius *	27337	Growth	24 hrs	
Staphylococcus aureus or Enterococcus faecalis	25923 29212	Growth	24 hrs	
Escherichia coli	25922	Growth	24 hrs	
Proteus mirabilis	12453	Growth	24 hrs	
Propionibacterium acnes or Clostridium difficile	6919 9689	Growth	24 – 48 hrs 24 hrs	

* Organisms specified by CLSI for Quality Control testing of Anaerobic Blood Agars.

[t] Pigment production may require more than 48 hours incubation

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 Growth	Special Reactions
B. fragilis	25285	24 hrs	
P. melaninogenica	25845	48 hrs	Pigment
F. necrophorum	25286	48 hrs	Poor Growth
C. perfringens	13124	24 hrs	Double zone of β-hemolysis
P. anaerobius	27337	24 hrs	

Physical Appearance: CA should appear opaque burgundy red in color.

References

1. Dowell, V. R., Jr. and T. M. Hawkins. 1987. *Laboratory Methods in Anaerobic Bacteriology. CDC Laboratory Manual.* USDHHS CDC. Atlanta, GA 30333.

2. Dowell, V. R., Jr. and G. L. Lombard. 1981. *Presumptive Identification of Anaerobic Non-sporeforming Gram-negative Bacilli*. USDHHS, CDC. Atlanta, GA 30333.

3. 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.

4. Engelkirk, P. G., Duben-Engelkirk, J. and Dowell, V. R. 1992. *Principles and Practices of Clinical Anaerobic Bacteriology*. Star Publishing Co., Belmont, CA 94002.

5. Holdeman, L. V., F. P. Cato and W. E. C. Moore. 1987. *Anaerobe Laboratory Manual*. Virginia Polytechnic Institute and State University. Blacksburg, VA 24061

6. 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.

7. 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.

8. Ellner, P. D., Stoessel, C. J., Drakeford, E., & Vasi, F. A. (1966). New Culture Medium for Medical Bacteriology. *American journal of clinical pathology*, *45*(4), 502-4.

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