

Product Insert

LAKED BRUCELLA BLOOD AGAR WITH KANAMYCIN AND VANCOMYCIN (LKV)

Products

AS-112	Laked Brucella Blood Agar with Kanamycin and Vancomycin (LKV)	1 plate / pkg
AS-142	Laked Brucella Blood Agar with Kanamycin and Vancomycin (LKV)	4 plates / pkg

The following products contain LKV as one of multiple components

AS-212	BBE/LKV Biplate	1 plate / pkg
AS-242	BBE/LKV Biplate	4 plates / pkg
AS-302	BRU Mono / BBE-LKV 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

Laked Brucella Blood Agar with Kanamycin and Vancomycin (LKV) is an enriched, selective, and differential medium for the isolation and partial identification of obligately anaerobic gram-negative bacilli. LKV agar is useful for the rapid isolation of *Prevotella* species.

Summary

LKV agar contains casein, soy peptone, meat peptone, yeast extract, and dextrose as its nutritive base. The selective agents include kanamycin and vancomycin to prevent the growth of most obligate gram-negative and gram-positive anaerobic bacteria, along with most facultative anaerobic bacteria. Laked sheep blood and vitamin K₁ are added to facilitate the recovery, and pigment production, of *Prevotella melaninogenica* and *Porphyromonas* spp. This media 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-Cysteine Hydrochloride (25.0% solution)	2.00	mL
Agar	15.00	g
Kanamycin	100.00	mg
Vancomycin	7.50	mg
Laked Sheep Blood	50.00	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 Bi-plates

*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: LKV 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, LKV agar will support good growth of some obligately anaerobic gram-negative bacteria (e.g. *Prevotella melanigenica* and *Bacteroides fragilis*) and inhibit the growth of facultatively anaerobic bacteria (e.g. *Escherichia coli*, *Proteus mirabilis*, and *Staphylococcus aureus*) and gram-positive obligate anaerobes (e.g. *Clostridium perfringens* and *Peptostreptococcus anaerobius*). LKV agar will support the pigmentation of *Prevotella* and *Porphyromonas* species.

Limitations

LKV 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 LKV medium 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 LKV. 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	Special Reaction
Bacteroides fragilis	25285	Growth	24 hrs	
Prevotella melaninogenica	25845	Growth	24 hrs	Pigment [†]
Fusobacterium necrophorum	25286	Variable		
Fusobacterium nucleatum	25586	Variable		
Clostridium perfringens	13124	No Growth		
Peptostreptococcus anaerobius	27337	No Growth		
Staphylococcus aureus or Enterococcus faecalis	25923 29212	Inhibited to No Growth		
Escherichia coli	25922	Inhibited to No Growth		
Proteus mirabilis	12453	Inhibited to No Growth		
Propionibacterium acnes or Clostridium difficile	6919 9689	No Growth		

[†] 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/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	Special Reactions
B. fragilis	25285	24 hrs	
P. melaninogenica	25845	48 hrs	Pigment
F. necrophorum	25286	Variable	
C. perfringens	13124	Inhibited	
E. coli	25922	Inhibited	

Physical Appearance: LKV should appear translucent 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.

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