



Oxyrase, Inc.

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Kanamycin, Vancomycin, Laked Blood (KVL) OxyPlate™ Product Insert

Intended Use

Kanamycin, Vancomycin, Laked Blood (KVL) OxyPlate™ is a prepared, ready-to-use, enriched selective medium intended for the in vitro selective isolation and cultivation of anaerobic bacteria, particularly gram-negative anaerobes such as Bacteroides, from clinical and non-clinical specimens. Each OxyPlate™ creates and maintains an anaerobic environment without the need for special equipment such as chambers or jars.

Intended Users

For use by trained laboratory personnel in clinical, reference, research, industrial, pharmaceutical, and veterinary microbiology settings.

Summary and Explanation

KVL is a selective, enriched medium that combines a Tryptic Soy Agar base with kanamycin and vancomycin for the recovery of anaerobic gram-negative bacteria. OxyPlates™ are made PRAS (Pre-Reduced Anaerobically Sterilized) with the Oxyrase® Enzyme System and a unique OxyDish™ plate design. The OxyDish™ is designed to create a seal that maintains anaerobiosis. It has a track on the outside of the base and keys inside the lid that ride on that track. The open (vented) position is the highest point of the lid as it sits on the rails; the closed (sealed) position is the lowest.

Principles of the Procedure

The KVL OxyPlate™ contains Tryptic Soy Agar (TSA) medium with blood, vitamin K1, and hemin. It is an enriched, general-purpose base made selective for anaerobes. Vitamin K1 and hemin provide nutrients for some strains of the pigmented Prevotella group and enhance the growth of some Bacteroides spp. and some gram-positive, non-spore-forming anaerobes. Vancomycin and kanamycin aid in the selective isolation of gram-negative anaerobes, especially Bacteroides. Laked blood improves the pigmentation of Prevotella. The Oxyrase® Enzyme System maintains the medium in a reduced state during storage and use and prevents the formation of undesirable oxidation products in these PRAS plates.

Reagents

Media Formulation (approximate, per liter of deionized water).
Initial pH: 7.55 (+/- 0.45).

Component	Amount
Pancreatic Digest of Casein	15.0 g
Peptic Digest of Soybean Meal	5.0 g
Yeast Extract	5.0 g
Sodium Chloride	5.0 g
L-Cysteine	0.58 g
Agar	15.0 g
Hemin	1.0 mg
Vitamin K1	1.0 mg
Vancomycin	1.1 mL
Kanamycin	3.82 mL
Laked Sheep Blood	51.0 mL
Sodium Bisulfite	0.1 g
Oxyrase® Enzyme System	proprietary
Deionized water	to final volume

This formula is typical. Production lots may be adjusted to offset variances in raw materials in order to meet performance criteria.

Warnings and Precautions

- For In Vitro Diagnostic Use.
- OxyPlates™ are packaged aseptically and must be handled aseptically to maintain sterility during use.
- Specimens and used culture plates may contain infectious agents; observe standard (universal) biohazard precautions when handling.
- Dispose of used plates as biohazardous waste; sterilize before disposal in accordance with applicable regulations.
- This product contains material of animal origin. Source animals are documented to be free of BSE/TSE.
- A Safety Data Sheet (SDS) is available on our website.

Storage and Handling

- OxyPlates™ will arrive at room temperature.
- Store the product at 2°C to 8°C.
- The expiration date is 3 months from the date of manufacture; refer to the plate/label for the actual expiration date.

Specimen Collection and Handling

Collect, transport, and process specimens using standard techniques for the recovery of anaerobic bacteria. Prompt processing and protection of specimens from oxygen exposure maximize anaerobe recovery. Consult appropriate references for specimen selection, collection, transport, and storage.

Materials Required But Not Provided

Inoculating loops or swabs; incubator capable of 35–37°C; and additional media, reagents, and equipment for Gram stain, subculture, and identification, as required.

Directions for Use

OxyPlates™ should be stored in an open position. Simply remove the plate from the bag and use. If the OxyPlate™ is closed, open the plate as follows:

1. Place the closed OxyPlate™ onto the work surface in the upright position.
2. Grasp the bottom of the lid with your thumb and finger, at opposite ends.
3. Put light, inward pressure on the lid as if pinching. The seal will disengage.
4. Streak the plate.

To close the OxyPlate™:

1. Place the open OxyPlate™ on the work surface in the upright position.
2. Grasp the lid between your thumb and finger.
3. Put light, downward pressure on the plate while turning it clockwise. Do not pierce the surface of the agar.
4. The ring in the lid slides along the agar surface and forms a seal to close the plate.
5. Incubate the closed OxyPlate™ at 35–37°C within a 5–10% CO₂ environment or aerobic incubator, in an inverted position (base up, lid down).

Each OxyPlate™ regenerates and maintains anaerobic conditions through a total of five (5) reseal-and-incubation events.

Before use, warm KVL OxyPlates™ to room temperature. Remove the plate from the protective pouch and handle it from the sides to prevent damage to the anaerobic seal. Examine plates for contamination, evidence of oxidation/discoloration (i.e., the plate is brown instead of dark red), and the expiration date.

When streaking or inoculating the surface of an OxyPlate™, microorganisms deposited within 3 mm of the ring impression may grow and spread under the ring when the dish is sealed, interacting with the seal. Control of streaking technique is at the discretion of the end user.

Use an appropriate indicator (such as OxyBlue™) inside the plate to test and confirm anaerobiosis.

Quality Control

Oxryase, Inc. certifies that samples of each lot were quality control tested and performed acceptably to Oxryase, Inc. specifications, which incorporate CLSI M22-A3. The following tests were confirmed:

Organism	ATCC No.	Result
<i>B. fragilis</i>	25285	Growth in 2-3 days
<i>C. perfringens</i>	13124	No growth in 2-3 days
<i>S. aureus</i>	25923	No growth in 2-3 days
<i>E. coli</i>	25922	Inhibition

Physical appearance: uninoculated medium is dark red and free of visible contamination.

Each laboratory should establish its own quality control program in accordance with applicable accreditation and regulatory requirements. The organisms listed above are recommended for user quality control.

Results and Interpretation

Examine the plates for growth following incubation. As a selective medium, KVL suppresses many gram-positive and facultative gram-negative organisms; growth is expected primarily for kanamycin- and vancomycin-resistant anaerobic gram-negative bacilli. Interpret colony morphology and pigmentation together with other laboratory findings, and confirm isolates by additional identification procedures.

Limitations of the Procedure

The medium may allow the growth of only selected microorganisms. Additional testing may be required to identify the various colony types grown on the OxyPlate™.

The Oxryase® Enzyme System contains a penicillin-binding protein that may interfere with penicillin and some related antibiotics.

Product Guarantee

Oxryase, Inc. guarantees a 28-day shelf life from the shipment date; arrange a longer shelf life at the time the order is placed. If OxyPlates™ arrive with less than a 28-day shelf life, are contaminated or oxidized, or fail when used as specified, Oxryase, Inc. will refund the purchase price. To request a refund, contact Oxryase, Inc. with the lot number printed on the plate; return of the product may be required for investigation. Oxryase, Inc. welcomes questions regarding this product and its applications.

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Key to Symbols

Symbol	Meaning
IVD	For in vitro diagnostic use
REF	Catalog number
LOT	Batch code / lot number
Σ (hourglass)	Use-by / expiration date
2–8°C	Temperature limit (store at 2°C to 8°C)
⏏ (factory)	Manufacturer
📖 (book)	Consult instructions for use

Products

Catalog No. (REF): O-KVL-BA

Manufactured by Oxryase, Inc., 3000 Park Ave. West, Mansfield, OH 44906, USA. **For In Vitro Diagnostic Use.**

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