

TECHNICAL DATA SHEET

VRE Agar Base

(Vancomycin Resistant Enterococci Agar Base)

Principle

Vancomycin Resistant Enterococci base agar is composed of tryptone, yeast extract, sodium chloride, sodium citrate sodium azide, ferric ammonium citrate, aesculin and agar. Tryptone and yeast extract provides nitrogen and other necessary minerals. Sodium chloride maintains the osmotic balance. Sodium citrate is the sole carbon source. Sodium azide is inhibitory for gram-negative organisms. Ferric ammonium citrate is indicator for esculin hydrolysis. The aesculin (glycoside) is source of carbon. The aesculin hydrolyzing microorganisms hydrolyzes aesculin to esculetin and dextrose. The esculetin reacts with ferric citrate to form brown or black color complex. Agar is solidifying agent. The supplement vancomycin helps in the selective isolation of vancomycin resistant *Enterococci* from other *Enterococci*. Meropenem helps to suppress the microflora especially gram-negative bacteria.

Use: For the isolation of Vancomycin Resistant Enterococci (VRE) and High Level Aminoglycoside Resistant Enterococci (HLARE) from clinical samples.

Contents*

Ingredients	Gram/Litre
Tryptone	20.000
Yeast extract	5.000
Sodium chloride	5.000
Sodium citrate	1.000
Sodium azide	0.150
Ferric ammonium citrate	0.500
Aesculin	1.000
Agar	10.000
pH at 25°C	7.0 ± 0.2

*** Formula adjusted for optimum performance and parameters # Equivalent to Beef Extract**

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Directions: Dissolve 42.65 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 min, cool it to 42-45°C and aseptically add 6 mg Vancomycin and 1mg Meropenem supplement and mix well. Pour in sterile petri plates. Ensure complete solidification and inoculate test sample aseptically.

Specimens types analyzed
Clinical and non-clinical samples.

Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	Creamish beige colored free flowing, homogeneous powder
Reaction of 4.26% solution	7.0 ± 0.2 at 25°C
pH	6.80 – 7.20
Gelling	Firm comparable with 1.0% agar gel
Color and clarity of ready medium	Light amber coloured, clear to slightly opalescent gel
Growth Promotion properties	Best at ≤ 100 CFU at 32-37 °C for 24-72 hours
Indicative properties	Optimum at ≤ 100 CFU at 32-37 °C for 18-48 hours
Negative control	Performed using sterile distilled water

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Different Microbial Response

Cultural characteristics observed after incubation at 33-37°C for 24-48 hours. Inoculum 50-100 CFU.

Organism	ATCC	Growth	Recovery	Esculin hydrolysis
<i>Enterococcus faecalis</i>	14506	Luxuriant	≥ 60%	Positive (Black color)
<i>Escherichia coli</i>	25922	Inhibited	--	--
<i>Salmonella typhimurium</i>	14028	Inhibited	--	--
<i>Pseudomonas aeruginosa</i>	27853	Inhibited	--	--

Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.
2. *Difco Manual* (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.
3. Facklam, R. R., and M. D. Moody. (1970). *Presumptive identification of group D streptococci: The bile-esculin test*. Appl. Microbiol. 20:245.
4. Swan, A. (1954). *The use of bile-esculin medium and of Maxted's technique of Lancefield grouping in the identification of enterococci (group D streptococci)*. J. Clin. Pathol. 7:160.

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