

40689 Violet Red Bile Agar acc. GB (VRBA; VRB-Agar; VRBL-Agar)

A selective medium for the detection and enumeration of coliform bacteria, especially the coli-aerogenes-group in water, milk and other dairy products.

Composition:

Ingredients	Grams/Litre
Peptone	7.0
Yeast Extract	3.0
Lactose	10.0
Sodium chloride	5.0
Bile salt	1.5
Neutral red	0.03
Crystal violet	0.002
Agar	15.0
Final pH 7.4 +/- 0.1 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Directions:

Suspend 41.5 g in 1 litre of distilled water and let it soak for 5 minutes. Bring to boil and distribute into plates or tubes. Sterilization at 121°C for 15 minutes is optional, but if the medium is to be used on the same day of preparation it need to be sterilized. No sterilization improves the recovery of the stressed microorganisms.

Principle and Interpretation:

Peptone and Yeast extract are a source of nitrogen, sulfur, carbon, vitamins and minerals. Bile salts and crystal violet are the inhibitors of gram-positive microorganisms. Lactose is the fermentable carbohydrate. Neutral red change to red-purple due to the building of acid during fermentation which change the pH. Sodium chloride is for the osmotic balance. Other gram-negative bacteria can be suppressed by incubation at temperature over 42°C for 18 hours or anaerobic incubation. Lactose fermenting coliforms give red colonies with precipitation of bile salts. Lactose non-fermenters and late lactose fermenters produce pale colonies.

Cultural characteristics after 18-24 hours at 36 °C ± 1 °C (under anaerobic conditions).

Organisms	Quality Control Evaluation standards	Characteristic reactions
<i>Escherichia coli</i> (25922)	PR ≥ 0.7	Purple or red colony with or without a precipitation zone
<i>Citrobacter freundii</i> (43864)	PR ≥ 0.7	Purple or red colony with or without a precipitation zone
<i>Streptococcus faecalis</i> (29212)	G < 5	—

Note:

PR = Productivity rate (Quantitative methods using TSA as Reference culture Media)

G = Growth Index (Semi-quantitative methods)



References:

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5. American Public Health Association, Standard Methods for the Examination of Dairy Products, 15th ed. (1995)
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9. J. Klosse, Harmonisierung des Speiseeisrechtes in der EWG, Süßwaren, 14, 778 (1968)
10. GB4789.28 Annex D Standard for quality control of the culture media and reagents made by manufacturer and laboratory
11. National Standard of the People's Republic of China-- GB 4789.3-2016-- Food microbiological examination: Enumeration of coliforms

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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