

Violet Red Bile Agar [V.R.B.A] with lactose

For the cultivation and enumeration of enterobacteria in water, foods and other materials

Formula in grams per liter:

Yeast Extract	3,00	Gelantin Peptone	7,00
Bile salts N° 3	1,50	Lactose	10,00
Sodium Chloride	5,00	Bacteriological Agar	15,00
Neutral Red	0,03	Crystal Violet	0,002

Final pH: 7,4 ± 0,2 at 25 °C

Preparation:

Suspend 41,5 grams of the medium in one liter of distilled water. Mix well. Heat with frequent agitation and boil for one minute. Cool to 45 °C, and use immediately. It can also be dispensed and sterilized in autoclave at 118° (12 lbs. sp.) for 15 minutes.

Uses:

For the detection and enumeration of coliforms in milk, food and other materials. Violet Red Bile Agar (VRBA) is a differential and mildly selective medium for the detection of coliforms in water as well as milk and other food materials. Gram-positive organisms are markedly inhibited by the bile salts and the crystal violet. The colonies of lactose fermenting bacteria are red in color whose size depends on the number of colonies on the plate. Occasionally the cocci of the intestinal tract can develop as small, punctiform red colonies.

Violet Red Bile Agar can be utilized for the presumptive identification of coliforms in milk and other food materials according to the APHA (Standard Methods for the Examination of Milk Products).

The material sample is seeded in small aliquots immediately onto VRBA. If desired, after the plates have solidified and been stored, but before the sample is seeded, another thin layer can be poured on top. Some laboratories are accustomed to this method and dismiss any growth on the lower layer as contamination.

In the studies of Hartman, he demonstrated that media prepared only by boiling gave the same results as media sterilized by autoclaving.

Microbiological Tests:

Microorganisms	Growth	Colony color
<i>Escherichia coli</i> ATCC25922	Good	Purple
<i>Enterobacter aerogenes</i> ATCC 13048	Good	Purple
<i>Salmonella enteritidis</i> ATCC 13076	Good	Colorless
<i>Staphylococcus aureus</i> ATCC 25923	Inhibited	-
<i>Enterococcus faecalis</i> ATCC 19433	Inhibited	-

