

70188 Violet Red Bile Agar (VRB-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 (from gelatin)	7.0
Yeast extract	3.0
Bile salts	1.5
Lactose	10.0
Sodium chloride	5.0
Neutral red	0.03
Crystal violet	0.002
Agar	12.0
Final pH 7.4 +/- 0.2 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 38.5 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 needs 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 35°C (under anaerobic conditions).

Organisms (ATCC)	Growth	Color of colony
<i>Escherichia coli</i> (25922)	+++	red, precipitation (bile point)
<i>Enterobacter aerogenes</i> (13048)	+++	pinkish
<i>Salmonella typhimurium</i> (14028)	+++	colorless
<i>Streptococcus faecalis</i> (29212)	-	
<i>Staphylococcus aureus</i> (25923)	-	
<i>Bacillus cereus</i> (11778)	-	



References:

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Precautions and Disclaimer

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