Violet Red Bile Agar, VRBA | AS-1377

Used for detection and enumeration of *coliforms* in food, animal feed and environmental samples.

Violet Red Bile Agar (VRBA) is a selective and differential culture medium which is used to count and identify *coliform* bacteria. Bile salts and crystal violet are added to the medium to selectively inhibit the growth of Gram-positive organisms. Because lactose is the only source of carbohydrates, lactose fermenters (*coliforms*) can be distinguished from non-lactose fermenters.

Peptone and yeast extract provide essential nutrients for microbial growth. Neutral red serves as a pH indicator. *Coliforms* ferment lactose to produce acid, which changes the color and results in the production of red colonies. Bile salts precipitate due to acidification, which is one of the factors that gives *coliform* colonies their distinctive characterization.

Although VRBA is useful for identifying *coliforms*, additional biochemical testing is necessary for a definite identification.

Composition (gr/L)	
Peptone	7
Yeast Extract	3
Lactose	10
Bile Salts	1.5
Sodium Chloride	5
Neutral Red	0.03
Crystal Violet	0.002
Agar	13
Final pH at 25°C	7.4 ± 0.2

Preparation

Dissolve 39.5 g of the powder into 1 liter distilled water. Heat with agitation to boil for 1 minutes to completely dissolve the powder. DO NOT AUTOCLAVE.

Quality Control

Dehydrated Appearance: Beige to reddish-beige, free-flowing, homogeneous.

Prepared Appearance: Reddish-purple, Slightly opalescent, no significant precipitate.

Reaction of 3.95% Solution at 25°C: pH 7.4 ± 0.2

Microbial Test Results

Incubate at 32 ± 1 °C for 24 ± 2 hours.

Organism (ATCC)	**Recovery**	**Colony color**
Escherichia coli (25922)	Good	Deep red with red precipitate around colonies
Enterobacter aerogenes (13048)	Good	Red, may have slight red precipitate around colonies
Shigella flexneri (29903)	Good	Colorless with no precipitate
Staphylococcus aureus (25923)	Marked to complete inhibition	-
Bacillus cereus (11778)	None	-

Storage

Keep the container at 15-30 °C and prepared medium at 2-8 °C.