

Violet Red Bile Glucose Agar

Selective medium for detection and enumeration of Enterobacteriaceae in food, water and other materials, according to USP/EP/JP and ISO 21528.

DESCRIPTION

Violet Red Bile Glucose Agar is a selective medium used for the detection and enumeration of bile-tolerant Gram-negative bacteria in food, water and other materials of sanitary importance.

This medium complies with the recommendations of the harmonized method in the United States Pharmacopoeia (USP), European Pharmacopoeia (EP) and Japanese Pharmacopoeia (JP).

The medium is also formulated in accordance with ISO 21528.

TYPICAL FORMULA

	(g/l)
Enzymatic Digest of Animal Tissues	7.0
Yeast Extract	3.0
Glucose	10.0
Sodium Chloride	5.0
Bile Salts	1.5
Neutral Red	0.03
Crystal Violet	0.002
Agar	14.0

Final pH 7.4 ± 0.2 at 25°C

METHOD PRINCIPLE

Enzymatic digest of animal tissues provides amino acids, nitrogen, carbon, vitamins and minerals for organisms growth. Yeast extract is a source of vitamins, particularly of B-group. Glucose is the fermentable carbohydrate. Sodium chloride maintains the osmotic balance of the medium. Bile salts and Crystal violet are selective agents effective against Gram-positive cocci. Neutral red is the pH indicator. Agar is the solidifying agent.

PREPARATION

<u>Dehydrated medium</u>	Suspend 40.5 g of the powder in 1 liter of distilled or deionized water. Mix well. Heat to boil shaking frequently until completely dissolved. DO NOT AUTOCLAVE.
<u>Medium in bottles</u>	Melt the content of the bottle in a water bath at 100°C (loosing the cap partially removed) until completely dissolved. Then screw the cap and check the homogeneity of the dissolved medium, if it is the case turning the bottle upside down. Cool at 45-50°C, mix well avoiding foam formation and aseptically distribute into Petri dishes.

TEST PROCEDURE

- Use a suitable diluent such as Buffered Peptone Water (ref. 24099) to prepare the sample.
The European Pharmacopoeia recommends to perform a pre-incubation step in Tryptic Soy Broth (ref. 24444) for 2-5 h at 20-25°C to resuscitate bacteria followed by 24-48 h enrichment at 30-35°C in EE Broth-Mossel (ref. 24096).
- Inoculate Violet Red Bile Glucose Agar by pour plating or spread plating method.
- Incubate aerobically at 30-35°C for 18-24 hours or 37°C for 24 ± 2 hours, depending on the method used.

For environmental hygiene monitoring, use a swab and the sampling template 10x10 (ref. 96762) to sample a well defined area of the test surface. Then, inoculate the medium by streaking the swab over the plate. Otherwise, RODAC plates can be directly used for surface sampling by firmly pressing the agar medium against the test area.

INTERPRETING RESULTS

Select plates containing less than 150 colonies. Count characteristic pink to red colonies (with or without precipitation halo).

Confirm by subculturing to a non selective agar medium looking for oxidase reaction (ref. 88029) and glucose fermentation (ref. 88202). Colonies that are oxidase-negative and glucose-positive are confirmed as Enterobacteriaceae.

APPEARANCE

Dehydrated medium: free-flowing, homogeneous, beige to reddish-beige.
Prepared medium: slightly opalescent, reddish-purple.

STORAGE

The powder is very hygroscopic, store the powder at 10-30°C, in a dry environment, in its original container tightly closed. Store bottles and prepared plates at 10-25°C away from light. Do not use the product beyond its expiry date on the label or if product shows any evidence of contamination or any sign of deterioration.

SHELF LIFE

Dehydrated medium: 4 years.
Medium in bottles: 2 years.
90 mm ready-to-use plates: 6 months.
55 mm ready-to-use RODAC plates: 9 months.

Distribué par :

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QUALITY CONTROL

Plates are inoculated with the microbial strains indicated in the QC table.

Inoculum for productivity: 50-100 CFU.

Inoculum for selectivity: 10⁴-10⁶ CFU.

Incubation conditions: 18-24 h at 30-35°C for *E. coli* and *P. aeruginosa* (Pharmacopoeia growth promotion);
24 ± 2 h at 37 ± 1°C for *E. coli*, *S. Typhimurium*, *S. Enteritidis* and *E. faecalis*.

QC Table.

Microorganism	Specification	
<i>Escherichia coli</i>	WDCM 00012	Good growth, pink to red colonies with or without precipitation halo
<i>Salmonella Typhimurium</i>	WDCM 00031	Good growth, pink to red colonies with or without precipitation halo
<i>Salmonella Enteritidis</i>	WDCM 00030	Good growth, pink to red colonies with or without precipitation halo
<i>Enterococcus faecalis</i>	WDCM 00009	Inhibition
<i>Pseudomonas aeruginosa</i>	ATCC® 9027	Good growth

WARNING AND PRECAUTIONS

The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous. It is nevertheless recommended to consult the safety data sheet for its correct use. The product is intended for professional use only and must be used by properly trained operators.

DISPOSAL OF WASTE









Disposal of waste must be carried out according to national and local regulations in force.

BIBLIOGRAPHY

- EN ISO 11133:2014. Microbiology of food, animal feed and water – Preparation, production, storage and performance testing of culture media.
- European Pharmacopoeia 6.5 (2009) 2.6.13. Microbiological examination of non-sterile products: Test for specified microorganisms.
- United States Pharmacopoeia 32 NF 27 (2009) <62> Microbiological examination of non-sterile products: Test for specified microorganisms.
- Japanese Pharmacopoeia 4.05 (2008) Microbiological examination of non-sterile products: Test for specified microorganisms.
- ISO 21528-1:2004. Microbiology of food and animal feeding stuffs – Horizontal method for the detection and enumeration of Enterobacteriaceae – Detection and enumeration by MPN technique with pre-enrichment.
- ISO 21528-2:2004. Microbiology of food and animal feeding stuffs – Horizontal method for the detection and enumeration of Enterobacteriaceae – Colony count method.
- Davidson, Roth, and Gambrel-Lenarz (2004) In Wehr and Frank (ed.) Standard methods for the microbiological examination of dairy products, 17th ed. American Public Health Association, Washington, D.C.
- Kornacki and Johnson (2001) In Downes and Ito (ed.) Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington D.C.

PRESENTATION		Contents	Ref.
Violet Red Bile Glucose Agar	90 mm ready-to-use plates	20 plates	11184
Violet Red Bile Glucose Agar	55 mm ready-to-use RODAC plates (in blister packs)	20 plates	15375
Violet Red Bile Glucose Agar	55 mm ready-to-use RODAC plates	20 plates	15375L
Violet Red Bile Glucose Agar	Bottles	6 x 100 ml bottles	402540
Violet Red Bile Glucose Agar	Bottles	25 x 100 ml bottles	450254
Violet Red Bile Glucose Agar	Bottles	6 x 500 ml bottles	470031
Violet Red Bile Glucose Agar	Dehydrated medium	500 g of powder	610059
Violet Red Bile Glucose Agar	Dehydrated medium	100 g of powder	620059
Violet Red Bile Glucose Agar	Dehydrated medium	5 kg of powder	6100595

TABLE OF SYMBOLS

LOT Batch code	 Keep away from sunlight	 Manufacturer	 Use by	 Fragile, handle with care
REF Catalogue number	 Temperature limitation	 Contains sufficient for <n> tests	 Caution, consult Instruction For Use	 Do not reuse

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