



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.

Instructions For Use

ENGLISH

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 (all parts).

TYPICAL FORMULA*

	(g/litre)
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

*Adjusted and/or supplemented as required to meet performance specifications.

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, contact 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.
Contact plates: 9 months.

QUALITY CONTROL

To check the performance of the medium, QC testing should be carried out following specific requirements for the method used.

ISO compliance

Control strain	Inoculum	Incubation	Criteria	Specification
<i>Escherichia coli</i>	WDCM 00012 or WDCM 00013	50-100 CFU	24 ± 2 h / 37 ± 1°C	P _R ≥ 0.5 Pink to red colonies with or without precipitation halo
<i>Salmonella</i> Typhimurium	WDCM 00031			
<i>Salmonella</i> Enteritidis	WDCM 00030			
<i>Enterococcus faecalis</i>	WDCM 00009 or WDCM 00087	10 ⁴ -10 ⁶ CFU	Total inhibition	—

A productivity ratio (P_R) of 0.5 is equivalent to a recovery rate of 50%

Pharmacopoeia growth promotion

Control strain	Inoculum	Incubation	Expected results	
<i>Escherichia coli</i>	ATCC® 8739 (WDCM 00012)	≤ 100 CFU	18-24 h / 30-35°C	Recovery ≥ 50%, pink to red colonies with precipitation halo
<i>Pseudomonas aeruginosa</i>	ATCC® 9027 (WDCM 00026)			Recovery ≥ 50%, colourless to slightly red colonies

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

See the references at the end of this document.

TABLE OF SYMBOLS

See the table of symbols at the end of this document.

The product is available in the various configurations listed below. There may be additional product ref. numbers as well. For an updated listing of available products, visit liofilchem.com

Product	Format	Packaging	Ref.
Violet Red Bile Glucose Agar	90 mm Plate	20 plates	11184
Violet Red Bile Glucose Agar	Contact Plate	20 plates	15375
Violet Red Bile Glucose Agar	Bottle	6 x 100 ml	402540
Violet Red Bile Glucose Agar	Bottle	25 x 100 ml	450254
Violet Red Bile Glucose Agar	Bottle	6 x 500 ml	470031
Violet Red Bile Glucose Agar	Dehydrated medium	100 g	620059
Violet Red Bile Glucose Agar	Dehydrated medium	500 g	610059
Violet Red Bile Glucose Agar	Dehydrated medium	5 kg	6100595

This document is available from the online Support Center:

liofilchem.com/ifu-sds



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