



Easy Dry™ Violet Red Bile Glucose

Selective medium for detection and enumeration of *Enterobacteriaceae* and bile-tolerant Gram-negative bacteria.

DESCRIPTION

Liofilchem® Easy Dry™ are sterile, dehydrated culture media, impregnated upon absorbent pads. Each pad is preplated in a Petri dish and is immediately ready-to-use after being moistened with sterile distilled or deionized water. Easy Dry™ are optimal for the examination of large sample volumes by the membrane filter method.

Easy Dry™ Violet Red Bile Glucose (VRBG) is a selective isolation medium used for the detection and enumeration of *Enterobacteriaceae* and bile-tolerant Gram-negative bacteria in filterable samples, especially water.

VRBG agar (the corresponding agar medium) is described in the following standards:

- ISO 21528 (parts 1 and 2) for examination of food, animal feed, and environmental samples in the area of primary production, food production and food handling;
- Harmonized USP/EP/JP for testing non-sterile pharmaceutical products.

TYPICAL FORMULA

Enzymatic Digest of Animal Tissues

Yeast Extract

Glucose

Sodium Chloride

Bile Salts

Neutral Red

Crystal Violet

Final pH 7.4 ± 0.2 at 25°C

Formula is based on the corresponding agar medium, adjusted to meet specific performance requirements.

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 bacteria. Neutral red is the pH indicator.

PREPARATION

1. Cut open a bag and remove the number of Easy Dry™ plates needed.
2. Moisten the pad contained in the Petri dish with 2.2 ml of sterile distilled or deionized water.
3. Wait 5 minutes before using.

TEST PROCEDURE

Filter the sample through a filter membrane (0.45 μm pore diameter). Transfer the membrane onto a plate containing a just rehydrated pad. Incubate aerobically at $37 \pm 1^{\circ}\text{C}$ for 22-24 hours.

NOTE: Incubation conditions may vary depending on the target organisms.

INTERPRETING RESULTS

Characteristic colonies are pink to red.

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

APPEARANCE OF THE MEDIUM

Whitish pad. Reddish-purple once rehydrated.

STORAGE

Store at $10-25^{\circ}\text{C}$ 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

2 years.

QUALITY CONTROL

The medium is 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, red to pink colonies
<i>Salmonella Typhimurium</i>	WDCM 00031 Good growth, red to pink colonies
<i>Salmonella Enteritidis</i>	WDCM 00030 Good growth, red to pink colonies
<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

1. EN ISO 11133:2014+Amd1:2018. Microbiology of food, animal feed and water – Preparation, production, storage and performance testing of culture media.
2. ISO 21528-1:2017 Microbiology of the food chain -- Horizontal method for the detection and enumeration of Enterobacteriaceae -- Part 1: Detection of Enterobacteriaceae
3. ISO 21528-2:2017 Microbiology of the food chain -- Horizontal method for the detection and enumeration of Enterobacteriaceae -- Part 2: Colony-count technique
4. European Pharmacopoeia (EP) 2.6.13. Microbiological examination of non-sterile products: Test for specified microorganisms.
5. United States Pharmacopoeia (USP) <62> Microbiological examination of non-sterile products: Test for specified microorganisms.
6. Japanese Pharmacopoeia (JP) 4.05 Microbiological examination of non-sterile products: Test for specified microorganisms.
7. Mossel, D.A.A. Media for Enterobacteriaceae (1985) International Journal of Food Microbiology, 2 (1- 2), pp. 27-32.

PRESENTATION

PRESENTATION	Packaging	Ref.
Easy Dry™ Violet Red Bile Glucose	100 pads	87502

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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Via Scozia zona ind.le, 64026 Roseto degli Abruzzi (TE) Italy

Tel. +39 0858930745

Fax +39 0858930330

www.liofilchem.com

liofilchem@liofilchem.com