

Specification

Selective solid medium for the enumeration of enterobacteria, according to ISO standard 21528 and Pharmacopeial Harmonised Methods.

Presentation

20 Prepared Plates
90 mm
with: 21 ± 2 ml

Packaging Details

1 box with 2 packs of 10 plates/pack. Single cellophane.

Shelf Life

3 months

Storage

2-14°C

Composition

Composition (g/l):

Yeast extract.....	3.00
Peptone from Gelatin.....	7.00
Bile salts mixture	1.50
D(+)Glucose.....	10.0
Sodium chloride.....	5.00
Neutral red.....	0.03
Crystal violet.....	0.002
Agar.....	13.0

Description /Technique

Description

This medium is a modification of the Violet Red Bile Agar and the MacConkey Agar as described by Mossel et al. The addition of glucose to the Violet Red Bile Agar enhances both the growth of the most fastidious enterobacteria and the recovery of those having suffered from adverse conditions. Mossel himself realized that by removing the lactose and keeping the glucose, the medium's efficiency remained stable.

Technique

For plate inoculation follow the laboratories standard methods or the applicable norms (spiral plating method, econometric methods, streak plating, dilution banks, spread plating with drigralsky rod etc ...)

Violet Red Bile Dextrose Agar is widely used in the analysis of food, medicines and cosmetics. It is particularly indicated for the recovery of bacteria which have been damaged during preparation. In such cases, a progressive enrichment is recommended in TSB and subsequently in EE Broth. The enriched culture can be inoculated in tubes or on Violet Red Bile Dextrose Agar plates. For a count of enterobacteria, follow the technique described for Violet Red Bile Agar.

Results can be read after 24 hours of incubation at $35^{\circ}\text{C} \pm 2,0$. Enterobacterial colonies are an intense purple colour surrounded by a clearer zone. If enterococci colonies eventually develop, they will be small and pink coloured.

Note: Incubation times longer than those mentioned above or different incubation temperatures may be required depending on the sample , on the specifications.

Quality control**Physical/Chemical control**

Color : Violet-pink

pH: 7.4 ± 0.2 at 25°C

Microbiological control

Inoculate with 10-100 CFU according to harmonized Pharmacopoeiae or with 10⁴-10⁶ CFU for Selectivity.
Microbiological control according to ISO 11133:2014/ Adm 1:2018.

Aerobiosis. Incubation: 30-35°C. Reading at 24h (E.P.) / 37±1°C. Reading at 24 h (ISO)

Microorganism

Enterococcus faecalis ATCC® 19433, WDCM 00009
Staphylococcus aureus ATCC® 6538, WDCM 00032
Ps. aeruginosa ATCC® 9027, WDCM 00026
Escherichia coli ATCC® 8739, WDCM 00012
Salmonella typhimurium ATCC® 14028, WDCM 00031
Escherichia coli ATCC® 25922, WDCM 00013
-

Growth

Inhibited
Inhibited
Good
Good (50%)- Red purple colonies - Biliar precipitate
Good (50%)- Red purple colonies - Biliar precipitate
Good (50%)- Red purple colonies - Biliar precipitate
Note: results ATCC 8739/6538/9027 at 30-35 °C. Rest

Sterility Control

Incubation 48 hours at 30-35°C and 48 hours at 20-25°C: NO GROWTH
Check at 7 days after incubation in same conditions

Bibliography

- EUROPEAN PHARMACOPOEIA 8.0 (2014) 8th ed. § 2.6.13. Microbiological examination of non-sterile products: Test for specified microorganisms. Harmonised Method. EDQM. Council of Europe. Strasbourg.
- ISO Norma 21528-1: 2004. Microbiology of food and animal feeding stuffs - Horizontal methods for the detection and enumeration of Enterobacteriaceae - Part 1: Detection and enumeration by MPN technique with pre-enrichment.
- ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
- MOSSEL, D.A.A. (1985) Media for Enterobacteriaceae. Int. J. Food Microbiol. 2:27-35.
- MOSSEL, D.A.A., H. MENGERINK & H.H. SCHOLTS (1962) Use a Modified MacConkey Agar Medium for the selective growth and enumeration of all Enterobacteriaceae. J. Bact. 84:381.
- MOSSEL, D.A.A., M. VISER & A.M.R. CORNELISSEN (1963) The examination of foods for Enterobacteriaceae using a test of the type generally adopted for the detection of salmonellae. J. Appl. Bact. 26:444-452.
- MOSSEL, D.A.A. & M.A. RATTO (1970) Rapid detection of sub-lethally impaired cells of Enterobacteriaceae in dried foods. Appl. Microbiol. 20:273-275.
- PASCUAL ANDERSON, M^o R. (1992) Microbiología Alimentaria. Díaz de Santos, S.A. Madrid.
- USP 33 - NF 28 (2011) <62> Microbiological examination of non-sterile products: Test for specified microorganisms. Harmonised Method. USP Corp. Inc. Rockville. MD. USA.