m-ENTEROCOCCUS AGAR

- For in vitro use only - Catalogue No. PE52 & PE57

Our m-Enterococcus Agar is used for the isolation and enumeration of enterococci by the membrane filtration.

Slanetz, Bent, and Bartley developed m-Enterococcus Agar for the enumeration of enterococci. The addition of triphenyltetrazolium chloride (TTC) was described later by Slanetz and Bartley and the modified medium gave superior recovery of enterococci via membrane filtration.

TTC, a colorless dye, is used as an indicator of bacterial growth. Organisms capable of growing on the medium reduce TTC to formazan, a insoluble, red-colored compound, that gives colonies a pink to red coloration. The nutritional components include a variety of peptones and extracts that provide the necessary growth factors to elicit sustained bacterial growth. The selectivity of the medium is due to the presence of sodium azide, which inhibits the growth of gram-negative organisms while allowing gram-positive organism such as enterococci to grow.

A supplemented version of this medium containing vancomycin (Catalogue no. PE58) is also available for screening clinical samples for the presence of VRE (vancomycin-resistant enterococci).

Formula per Litre of Medium

Yeast Extract	5.0 g
Casein Peptone	15.0 g
Dextrose	2.0 g
Soy Peptone	5.0 g
Potassium Phosphate	4.0 g
Sodium Azide	0.4 g
Agar	10.0 g
Triphenyltetrazolium Chloride (TTC)	0.1 g

pH 7.2 ± 0.2 at 25°C

Recommended Procedure

(Please refer to appropriate literature for a more detailed procedure)

1. Follow the membrane filtration procedure as described in "Standard Methods for the Examination of Water and Wastewater" or other appropriate literary reference.
2. Allow medium to warm to room temperature prior to inoculation.
3. Choose a sample size so that 20 to 60 colonies will result. Filter sample.
4. Aseptically transfer the membrane filter to the agar; slowly roll the filter onto the agar surface to minimize air bubbles.
5. Let plates stand for 30 minutes.
6. Invert plates and incubate aerobically at 35°C.
7. Examine and enumerate after 48 hours.

Interpretation of Results

Enterococci will appear as small (0.5 to 2.0-mm), pink to red colonies on m-Enterococcus Agar. Ideally, for enumeration purposes the total colony count should range from 20 to 60 colonies; a colony count exceeding 200 should be considered TNTC (Too Numerous To Count)

Growth of gram-negative bacteria is inhibited although resistant organisms capable of growing on this medium will also produce pink or red colonies.

Additional biochemical and/or serological tests should be performed on isolated colonies from pure culture in order to complete identification.

- *Nutritional requirements of organisms vary therefore some strains may be encountered that fail to grow on this medium*

Quality Control

After checking for correct pH, colour and sterility, the following organisms are used to determine the growth performance of the completed medium.

Organism	Expected Result
Enterococcus faecalis ATCC 29212	Growth, pink to red colonies
Escherichia coli ATCC 25922	Inhibition

Storage and Shelf Life

Our m-Enterococcus Agar should be stored away from direct light at 4°C to 8°C with the medium side up to prevent excessive accumulation of moisture on the agar surface. Under these conditions, this medium has a shelf life of 10 weeks from the date of manufacture.

Ordering Information

Cat#	Description	Format
PE52	m-Enterococcus Agar [Membrane 15x60-mm plate]	10/pkg
PE57	m-Enterococcus Agar [Standard 15x100-mm plate]	10/pkg

References

1. Slanetz LW, Bent DF, and Bartley CH. Use of the membrane filter technique to enumerate enterococci. Public Health Rep 1955; 70:67.
2. Slanetz LW, Bartley CH. Numbers of enterococci in water, sewage, and feces, determined by the membrane filter technique with an improved medium. J Bacteriol 1957; 74:591.
3. Lachica RVF, Hartman PA. Two improved media for isolating and enumerating enterococci in certain frozen foods. J Appl Bact 1968; 31:151-6.
4. MacFaddin JF. Media for isolation-cultivation-maintenance of medical bacteria, Vol I. Baltimore: Williams & Wilkins, 1985.
5. Eaton AD, Clesceri LS, Greenberg AE, Eds. Standard methods for the examination of water and wastewater. 19th ed. Washington, DC: American Public Health Association, 1995.
6. Van Horn KG, Gedris CA, Rodney KM. Selective isolation of vancomycin-resistant enterococci. J Clin Micro 1996; 34:924-927.

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