

90919 *Enterococcus faecium* ChromoSelect Agar Base

Enterococcus faecium ChromoSelect Agar is recommended for chromogenic identification of *Enterococcus faecium* from faeces, sewage and water supplies.

Composition:

Ingredients	Grams/Litre
Peptone, special	23.0
Arabinose	10.0
Chromogenic substrate	0.1
Corn starch	1.0
Phenol red	0.1
Sodium chloride	5.0
Agar	15.0
Final pH 7.8 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Appearance: Pinkish to beige coloured, homogeneous, free flowing powder.

Gelling: Firm

Color and Clarity: Red coloured, clear to slightly opalescent gel forms in petri plates.

Directions:

Suspend 27.1 g in 500 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 45-50°C and add the rehydrated contents of 1 vial of *Enterococcus faecium* Selective Supplement (Cat. No. 01318). Mix well and pour into sterile petri plates.

Principle and Interpretation:

Ent. Faecium ChromoSelect agar is recommended for the chromogenic detection of *Enterococcus faecium* from urine, faeces, soil, food, water, plants and animals. *E. faecium* is also commonly found in the gastrointestinal tracts of humans (1). The resistance exhibited by *Enterococcus* species to various antimicrobials have led them to being a major cause of human infections including nosocomial infections (2). *E. faecalis* causes 80-90% of infection while *E. faecium* causes the majority of the remainder (3). The use of selective media for the isolation of Enterococci has been previously reviewed, including those containing chromogenic substrates (4) and media containing cephalixinaztreonam supplements. *Enterococcus* species possess the enzyme β -glucosidase which specifically cleaves the chromogenic substrate to produce blue coloured colonies. *E. faecium* ferment arabinose and cleaves the chromogenic substrate present in the media to produce green coloured colonies along with yellow colouration to the medium. *E. faecalis* does not ferment arabinose and therefore retains the blue colour.

Peptone special serves as a source of carbon, nitrogen and essential growth nutrients. Corn starch neutralizes the toxic metabolites, sodium chloride maintains the osmotic equilibrium. Phenol red serves as a pH indicator with arabinose being the fermentable carbohydrate. The supplement contains aztreonam, which inhibits gram-negative bacteria, including *Pseudomonas aeruginosa*. It is known to be effective against a wide range of bacteria including *Citrobacter*, *Enterobacter*, *E coli*, *Haemophilus*, *Klebsiella*, *Proteus*, and *Serratia* species. The cephalixin, as well present in the supplement, inhibits most gram-positive bacteria but not *Enterococcus* species.

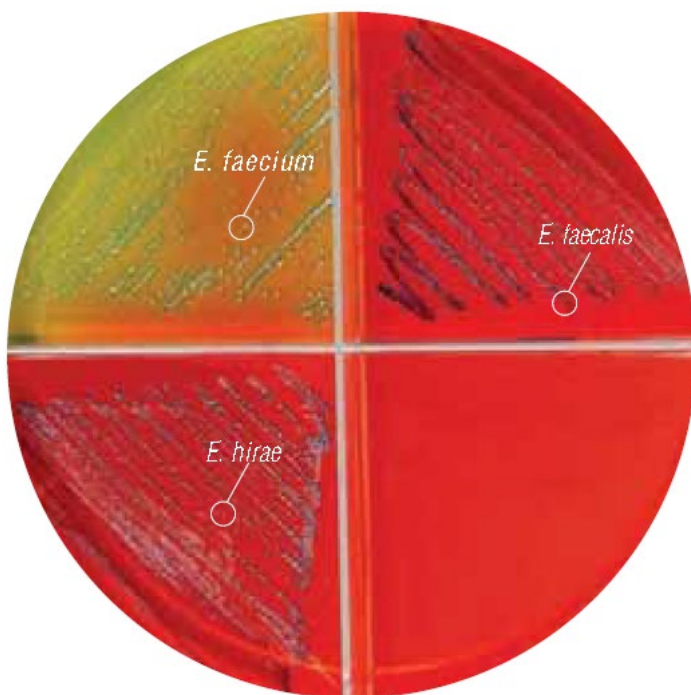


Cultural characteristics after 18-24 hours at 35-37°C.

Organisms (ATCC)	Growth	Color of Colony
<i>Escherichia coli</i> (25922)	-	-
<i>Enterococcus faecalis</i> (29212)	+++	blue
<i>Enterococcus faecium</i> (19434)	+++	green
<i>Enterococcus hirae</i> (10541)	+++	blue
<i>Pseudomonas aeruginosa</i> (27853)	-	-
<i>Staphylococcus aureus</i> (25923)	-	-

References:

1. G.C. Mead, Streptococci in the intestinal flora of man and other non-ruminant animals, p. 245-261. In F. A. Skinner and L. B. Quesnel (ed.), Streptococci. Academic Press, Inc. (London) Ltd., London, United Kingdom (1978)
2. C. Chenoweth, D. Schaberg, The epidemiology of enterococci, Eur. J. Clin. Microbiol. Infect. Dis., 9, 80-89 (1990)
3. Moellering, Clin. Infect. Dis. 14, 1173 (1992)
4. B. Willinger, M. Manafi, Evaluation of new chromogenic agar medium for the identification of urinary tract pathogens, Lett. Appl. Microbiol. 20, 300-302 (1995)
5. M. Ford, J.D. Perry, F.K. Gould, Use of cephalixin-aztreonam-arabinose agar for selective isolation of *Enterococcus faecium*, J. Clin. Microbiol., 32(12), 2999-3001 (1994)



Precautions and Disclaimer

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