Chromocult® Enterococci Broth

Use as a test for enterococci and also for their selective enrichment in the bacteriological water examination.

Mode of Action

The presence of enterococci (as well as the less frequent D-streptococci), which account for most of the faecal streptococci, serves as an indicator for faecal contamination. This is, in some respect, more specific than the presence of coliforms which may originate from non-faecal sources, whereas enterococci can come only from faeces of human or animal origin.

The concentration of sodium-azide present in this medium largely inhibits the growth of the accompanying, and especially the Gram-negative microbial flora while sparing the enterococci.

The substrate X-GLU (5-bromo-4-chloro-3-indolyl-ß-D-glucopyranoside) is cleaved, stimulated by selected peptones, by the enzyme ß–D-glucosidase which is characteristic for enterococci. This results in an intensive blue-green colour of the broth. Azide, at the same time, prevents a false positive result by most other ß-D-glucosidase positive bacteria. Therefore, the colour-change of the broth largely confirms the presence of enterococci and D-streptococci in water.

Typical Composition (g/litre)

Peptones 8.6; sodium chloride 6.4; sodium azide 0.6; 5-bromo-4-chloro-3-indolyl-ß-D-glucopyranoside (X-GLU) 0.04; Tween® 80 2.2.

Preparation

Suspend 18 g (single-strength) or 36 g (double-strength) in 1 litre of demin. water, dispense into suitable vessels, autoclave (15 min at 121 °C).

pH: 7.5 ± 0.2 at 25 °C.

The prepared broth is clear and yellowish.

Experimental Procedure

Small sample volumes (up to 1 ml) can be added to the single-strength broth. Larger volumes (10 ml or more) should be diluted with the aliquot volume of double-strength broth to give the normal concentration.

Incubation: 18-24 h at 35° to 37 °C. If incubated at room temperature (+20 to +25 °C) the incubation time is prolonged to 48 hours.

Evaluation

A strong blue-green colour of the broth indicates the presence of enterococci and D-streptococci. The observed turbidity from growth may be very weak.

Literature

ALTHAUS, H., DOT, W., HAVEMEISTER, G., MÜLLER, H.E., a. SACRÉ, C.: Faecal streptococci as indicator organisms of drinking water. – Zbl. Bakt. Hyg., I. Abt. Orig. A 252; 154-165 (1982).

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Ordering Information

Product	Merck Cat. No.	Pack size
Chromocult® Enterococci Broth	1.10294.0500	500 g

No growth

Enterococcus faecalis

Quality control

Test strains	Growth	Colour change to blue-green
Enterococcus faecalis ATCC 11700	fair / good	+
Enterococcus faecalis ATCC 19433	fair / good	+
Enterococcus faecium ATCC 6057	fair / good	+
Streptococcus bovis DSMZ 20480	not limited	+
Staphylococcus aureus ATCC 25923	fair / good	-
Aeromonas hydrophila DSMZ 30187	none / poor	-
Escherichia coli ATCC 25922	none / poor	-
Pseudomonas aeruginosa ATCC 27853	none / poor	-