

DEV Glutamate Broth

For selective enrichment and determining the titre of coliform bacteria in the bacteriological analysis of water. It complies with the German Standard. Methods for water and sludge examination as well as the German drinking water regulation (1990) and the regulations for the examination of food (LMBG).

By adding agar-agar it is possible to make Glutamate Nutrient Agar for the examination of foodstuffs acc. to ISO 16649, see Chromocult® TBX agar.

Mode of Action

The proliferation of enterococci is almost completely inhibited by the lack of certain nutrient substances essential for their growth. Lactose-positive organisms cause a colour change to yellow.

Typical Composition (g/litre)

Casein hydrolysate 1.0; lactose 10.0; sodium L(+)-glutamate 6.36; sodium formate 0.25; L(+)-arginine monohydrochloride 0.02; L(+)-aspartic acid 0.024; L(-)-cystine 0.02; di-potassium hydrogen phosphate 0.9; ammonium chloride 2.5; magnesium sulfate 0.1; calcium chloride 0.01; iron(III) citrate 0.01; thiaminium dichloride 0.001; nicotinic acid 0.001; pantothenic acid 0.001; bromocresol purple 0.01.

Preparation

Suspend 21 g or 42 g/litre, dispense into culture tubes fitted with DURHAM tubes, autoclave (15 min at 121 °C).

pH: 6.7 ± 0.2 at 25 °C.

The medium is clear and purple.

Preparation of Glutamate Nutrient Agar: Dissolve 21 g/litre together with 15 g/litre agar-agar and autoclave (15 min at 121 °C)

Experimental Procedure and Evaluation

According to the German regulations, the inoculated broth is incubated for 20 ± 4 hours at 42 ± 0.5 °C. Otherwise it is applied according to the required purpose.

If lactose-positive microorganisms grow, the broth colour changes to yellow.

Literature

Bundesgesundheitsamt: Amtliche Sammlung von Untersuchungsverfahren nach § 35 LMBG. - Beuth Verlag Berlin, Köln.

Deutsche Einheitsverfahren zur Wasser-, Abwasser- und Schlammuntersuchung. - VCH Verlagsgesellschaft, D-6940 Weinheim

Ordering Information

Product	Merck Cat. No.	Pack size
DEV Glutamate Broth	1.10687.0500	500 g
Agar-Agar, granulated	1.01614.1000	1 kg

Quality control; incubation: 24 h at 35 °C

Test strains	Growth	Colour change to yellow	Gas formation
Escherichia coli ATCC 25922	good / very good	+	+
Escherichia coli ATCC 11775	good / very good	+	+
Klebsiella pneumoniae ATCC 13883	good / very good	+	+
Salmonella typhimurium ATCC 14028	good / very good	-	-
Enterococcus faecalis ATCC 11700	none / poor	-	-
Pseudomonas aeruginosa ATCC 27853	good / very good	-	-