

Technical Data Sheet

GranuCult™

BRILA (Brilliant-Green Bile Lactose) Broth

acc. ISO 4831, ISO 4832 and FDA-BAM

Ordering number: 1.05454.0500 / 1.05454.5000

For the selective enrichment, enumeration and confirmation of *Escherichia coli* and other faecal coliform organisms from food and animal feed, water and other materials.

This culture medium complies with the specifications given by ISO 4831, ISO 4832, FDA-BAM and APHA.

Brilliant-Green Bile Lactose broth (BGBLB) is also called Brilliant Green Bile (BGB) broth.

Mode of Action

This medium contains brilliant green and bile as the inhibitory agents for Gram-positive organisms and lactose as carbon source, which is dissimilated rapidly by the coli-aerogenes group, mostly by the heterofermentative pathway, leading to gas formation.

It is now common practice to carry out preliminary MPN tests using a less selective medium such as Lauryl Sulfate broth acc. ISO 4831 and FDA-BAM (article number 1.10266.0500) and confirm any tube showing a positive reaction by subculture to BRILA broth. The medium is also used for confirmation after poured plating with Violet Red Bile Lactose agar acc. ISO 4832 and FDA-BAM.

Typical Composition

Specified by ISO 4831, ISO 4832		Specified by BAM M25		GranuCult™ BRILA Broth acc. ISO 4831, ISO 4832 and FDA-BAM	
Enzymatic Digest of Casein	10 g/l	Peptone	10 g/l	Enzymatic Digest of Casein	10 g/l
Lactose	10 g/l	Lactose	10 g/l	Lactose	10 g/l
Dehydrated Ox Bile	20 g/l	Oxgall	20 g/l	Ox Bile	20 g/l
Brilliant Green	0.0133 g/l	Brilliant Green	0.0133 g/l	Brilliant Green	0.0133 g/l
Water	1000 ml/l	Water	1000 ml/l	Water	n/a
pH at 25 °C	7.2 ± 0.2	pH at 25 °C	7.2 ± 0.1	pH at 25 °C	7.2 ± 0.2

Preparation

Dissolve 40 g in 1 l of purified water. Fill into tubes containing Durham tubes and autoclave 15 min at 121 °C. The Durham tubes shall not contain any air bubbles after autoclaving.

The prepared medium is clear and green. The pH value at 25 °C is in the range of 7.0-7.4.

Experimental Procedure and Evaluation

Depend on the purpose for which the medium is used.

Incubate the inoculated tubes under aerobic conditions, e.g. acc. to ISO 4831 and ISO 4832 at 29-31 °C or at 36-38 °C (or as specified) for 22-26 h or, if gas formation is not observed at this stage, continue incubation for another 22-26 h.

Formation of gas is shown in the inverted Durham tubes.

Storage

Store at +15 °C to +25 °C, dry and tightly closed. Do not use clumped or discolored medium. Protect from UV light (including sun light). For *in vitro* use only.

According to Corry et al. (2012), self-prepared medium in screw-capped containers can be stored at +2 °C to +8 °C in the dark and for up to one month.

Quality Control

Function	Control strains	Incubation	Method of control	Expected results
Productivity	<i>Escherichia coli</i> ATCC® 8739	22-26 h at 29-31 °C aerobic	Qualitative	Growth (good turbidity) and gas formation in the Durham tube, gas production and turbidity
	<i>Escherichia coli</i> ATCC® 25922			
	<i>Citrobacter freundii</i> ATCC® 43864			
	<i>Escherichia coli</i> ATCC® 8739	22-26 h at 43-45 °C aerobic		
	<i>Escherichia coli</i> ATCC® 25922			
Selectivity	<i>Enterococcus faecalis</i> ATCC® 19433	46-50 h at 29-31 °C aerobic	Qualitative	Partial inhibition without gas production
	<i>Enterococcus faecalis</i> ATCC® 29212			
	<i>Bacillus cereus</i> ATCC® 11778			
	<i>Staphylococcus aureus</i> ATCC® 6538			Total inhibition without gas production

Please refer to the actual batch related Certificate of Analysis.

The performance test is in accordance with the current version of EN ISO 11133.

Literature

APHA (2012): Standard Methods for the Examination of Water. 22nd ed. American Public Health Association, American Water Works Association, Water Environment Federation, Washington, D.C.

Corry, J.E.L., Curtis, G.D.W. and Baird, R.M. (2012): Handbook of Culture Media for Food and Water Microbiology, pp. 693-695. Royal Society of Chemistry, Cambridge, UK.

FDA-BAM (2002): Chapter No. 4: Enumeration of *Escherichia coli* and the Coliform Bacteria. U.S. Food and Drug Administration - Bacteriological Analytical Manual.

ISO International Standardisation Organisation. Microbiology of food and animal feeding stuffs -- Horizontal method for the detection and enumeration of coliforms - Most probable number technique. ISO 4831:2006.

ISO International Standardisation Organisation. Microbiology of food and animal feeding stuffs -- Horizontal method for the enumeration of coliforms - Colony-count technique. ISO 4832:2006.

ISO International Standardisation Organisation. Microbiology of food, animal feed and water - Preparation, production, storage and performance testing of culture media. EN ISO 11133:2014.

Ordering Information

Product	Cat. No.	Pack size
GranuCult™ BRILA (Brilliant-Green Bile Lactose) Broth acc. ISO 4831, ISO 4832 and FDA-BAM	1.05454.0500	500 g
GranuCult™ BRILA (Brilliant-Green Bile Lactose) Broth acc. ISO 4831, ISO 4832 and FDA-BAM	1.05454.5000	5 kg
GranuCult™ Lauryl Sulfate Broth acc. ISO 4831, ISO 7251 and FDA-BAM	1.10266.0500	500 g
GranuCult™ Lauryl Sulfate Broth acc. ISO 4831, ISO 7251 and FDA-BAM	1.10266.5000	5 kg

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