Technical Data Sheet

GranuCult™
Plate Count Skimmed Milk Agar
acc. ISO 4833 and ISO 17410

Ordering number: 1.15338.0500

For the determination of the total microbial content from milk and dairy products.

This culture medium complies with the specifications given by EN ISO 4833, ISO 6730 I IDF 101, ISO 8552 I IDF 132, ISO 17410 and APHA (SMA with skimmed milk: Standard Methods Agar with skimmed milk).

Plate Count Skimmed Milk Agar is also named as Tryptone Glucose Yeast Skimmed Milk Agar or Casein-Peptone Dextrose Yeast Skimmed Milk Agar.

Mode of Action

This medium does not contain any inhibitors or indicators and it is relatively rich in its nutrients. Also the added skimmed milk is free from inhibitory substances. The enzymatic digest of casein (tryptone) is a nitrogen source containing a high level of free amino acids and yeast extract primarily supplies the B-complex vitamins. Glucose provides an energy source for the growth of bacteria whilst agar is the solidifying agent.

Typical Composition

Specified by ISO 4833, ISO 8552 I IDF 132, ISO 17410, APHA		Specified by ISO 6730 I IDF 101		GranuCult™ Plate Count Skimmed Milk Agar acc. ISO 4833 and ISO 17410	
Enzymatic Digest of Casein	5 g/l	Tryptone	5 g/l	Enzymatic Digest of Casein**	5 g/l
Yeast Extract	2.5 g/l	Yeast Extract	2.5 g/l	Yeast Extract	2.5 g/l
Glucose*	1 g/l	Glucose*	1 g/l	Glucose	1 g/l
Skimmed Milk Powder (Free from Inhibitors)	1 g/l	Skimmed Milk Powder (Free from Inhibitors)	1 g/l	Skimmed Milk Powder (Free from Inhibitors)	1 g/l
Agar	9-18 g/l	Agar	10-15 g/l	Agar-Agar***	14 g/l
Water	1000 ml/l	Water	1000 ml/l	Water	n/a
pH at 25 °C	7.0 ± 0.2	pH at 25 °C	7.0 ± 0.2	pH at 25 °C	7.0 ± 0.2

* ISO 4833 and ISO 8552 specify Glucose anhydrous (1 g/l), ISO 6730 specifies Glucose monohydrate (1 g/l), ISO 17410 specifies Glucose (1 g/l).
** Enzymatic digest of casein is equivalent to tryptone
*** Agar-agar is equivalent to other different terms of agar.

Preparation

Suspend 20 g in 1 l of purified water, and allow to stand for about 15 minutes. Put it into a cold water bath, bring slowly to the boil under repeated shaking, and keep heating until completely dissolved. Autoclave 15 min at 121 °C.

If the medium is to be used immediately for poured plate technique, cool it to 44-47 °C in a water bath before use. Use the molten medium as soon as possible, it should not be retained for more than 4 h, as specified by EN ISO 4833 and EN ISO 11133.

If the medium is used for surface plating technique, there should be no visible moisture on the plates before use. When moisture is present, the plates should be dried for the minimum time required to remove visible moisture, following the procedure as described by EN ISO 11133.

The prepared medium is clear to opalescent and yellowish to yellowish-brown.

Experimental Procedure and Evaluation

Depend on the purpose for which the medium is used.

Incubate the inoculated plates under aerobic conditions. e.g. according to EN ISO 4833 at 29-31 °C for 69-75 h or according to ISO 17410 at 5.5-7.5 °C for 10 days.

According to APHA (Test on Proteolytic Microorganisms - Skim milk agar method) at 31-33 °C for 48-72 h or for increased recovery of psychrotrophic bacteria, 20-22 °C for 72 h.

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 EN ISO 4833-2, self-prepared plates can be stored at +2 °C to +8 °C in the dark and protected against evaporation for up to four weeks. Self-prepared bottled medium can be stored at +2 °C to +8 °C in the dark for no longer than three months according to EN ISO 4833-1.

Quality Control

Function	Control strains	Incubation	Reference medium	Method of control	Expected results
Productivity	*Bacillus subtilis* subsp.*spizizenii* ATCC® 6633	69-75 h at 29-31 °C	Tryptic Soy Agar (TSA)	Quantitative by poured plating technique	Recovery ≥ 70 %
	Escherichia coli ATCC® 8739				
	Escherichia coli ATCC® 25922				
	Staphylococcus aureus ATCC® 6538				
	Staphylococcus aureus ATCC® 25922				

Please refer to the actual batch related Certificate of Analysis.

The performance test is in accordance with the current version of EN ISO 11133. A recovery rate of 70 % is equivalent to a productivity value of 0.7.

Escherichia coli ATCC® 11775

Literature

APHA (2004): Standard Methods for the Examination of Dairy Products. 17th ed. American Public Health Association, Washington, D.C.

ISO International Standardisation Organisation. Microbiology of the food chain -- Horizontal method for the enumeration of microorganisms - Part 1: Colony count at 30 °C by the pour plate technique. EN ISO 4833-1:2013.

ISO International Standardisation Organisation. Microbiology of the food chain -- Horizontal method for the enumeration of microorganisms - Part 2: Colony count at 30 °C by the surface plating technique. EN ISO 4833-1:2013.

ISO International Standardisation Organisation. Milk -- Enumeration of colony-forming units of psychrotrophic microorganisms -- Colony-count technique at 6,5 °C. ISO 6730 I IDF 101:2005.

ISO International Standardisation Organisation. Milk -- Estimation of psychrotrophic microorganisms -- Colony-count technique at 21 °C (Rapid method). ISO 8552 I IDF 132:2004.

ISO International Standardisation Organisation. Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of psychrotrophic microorganisms. ISO 17410:2001.

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™ Plate Count Skimmed Milk Agar acc. ISO 4833 and ISO 17410	1.15338.0500	500 g
GranuCult™ Plate Count Agar acc. ISO 4833, ISO 17410 and FDA-BAM	1.05463.0500	500 g
GranuCult™ Plate Count Agar acc. ISO 4833, ISO 17410 and FDA-BAM	1.05463.5000	5 kg
Skim Milk Powder	1.15363.0500	500 g
Plate Count Agar	1.46269.0020	20 plates
Plate Count Agar	1.46269.0100	100 plates

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