Technical Data Sheet

GranuCult™
DRBC (Dichloran-Rose Bengal Chloramphenicol) Agar acc. ISO 21527 and FDA-BAM

Ordering number: 1.00466.0500

DRBC (Dichloran-Rose Bengal Chloramphenicol) Agar is a selective agar for the enumeration of food spoiling yeasts and moulds.

The medium complies with the recommendations of the ISO 21527-1 horizontal method for the enumeration of yeast and moulds.

Mode of Action

DRBC was developed by King et al. (1979) and is a modification of Rose-Bengal-Chloramphenicol Agar (RBC) from Jarvis (1973). In comparison to RBC, the medium contains Dichloran (0.002 g/l), the pH is lowered to 5.6 and the Rose-Bengal concentration is cut in half (0.025 g/l). This results in an increased inhibition of bacteria and yeasts.

The inclusion of dichloran serves to inhibit the rapid spreading of mucoraceous fungi and restricts colony sizes of other genera, easing the colony count.

Typical Composition

Specified by ISO 21527-1		FDA-BAM M183		GranuCult™ DRBC	
Enzymatic Digest of Animal and Plant Tissue	5 g/l	Bacteriological Peptone	5 g/l	Enzymatic Digest of Animal and Plant Tissue	5 g/l
D-Glucose	10 g/l	Glucose	10 g/l	D(+)-Glucose	10 g/l
KH_2PO_4	1 g/l	KH_2PO_4	1 g/l	KH_2PO_4	1 g/l
$MgSO_4$	0.5 g/l	$MgSO_4$	0.5 g/l	$MgSO_4$	0.5 g/l
Dichloran	0.002 g/l	Dichloran	0.002 g/l	Dichloran	0.002 g/l
Rose Bengal	0.025 g/l	Rose Bengal	0.025 g/l	Rose Bengal	0.025 g/l
Chloramphenicol	0.1 g/l	Chloramphenicol	0.1 g/l	Chloramphenicol	0.1 g/l
Agar	12-15 g/l	Agar	15 g/l	Agar-Agar*	15 g/l
Water	1000 ml/l	Water	1000 ml/l	Water	1000 ml/l
pH at 25 °C	5.6 ± 0.2	pH at 25 °C	5.6 ± 0.2	pH at 25 °C	5.6 ± 0.2

* Agar-Agar is equivalent to other different terms of agar.

Preparation

Suspend 31.6 g in 1 l of demineralized water and heat to boiling until completely dissolved. Autoclave the medium at 121 °C for 15 min. Cool to approx. 50 °C. Mix well and pour plates.

The appearance of the prepared medium is clear and pink. The pH value at 25 °C is in the range of 5.4-5.8.

Experimental Procedure and Evaluation

Directly inoculate agar plates using surface spreading technique with serial dilutions.

Incubate aerobically, lip upwards at 24-26 °C and look for growth between 2 and 5 days.

Count the number of colonies per gram of food.

Attention: Some fungi may be inhibited on this medium. Therefore it is recommended to use Rose Bengal Chloramphenicol Agar (article number 100467) in parallel to examine and identify the complete fungal flora.

Storage

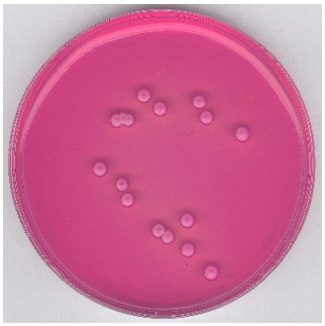
Store at 15°C-25°C, dry and tightly closed. Do not use clumped or discolored medium. Protect from UV light (including sun light). For *in vitro* use only.

Quality Control

Function	Control strains	Incubation	Reference medium	Method of control	Expected results
Productivity	*Saccharomyces cerevisiae* ATCC® 9763	5 days at 24-26 °C	Sabouraud Dextrose Agar (SDA)	Quantitative	Recovery ≥ 50 %, characteristic colony/ propagules according to each species
	Aspergillus brasiliensis ATCC® 16404				
	Candida albicans ATCC® 10231				
	Mucor racemosus ATCC® 42647				
Selectivity	*Escherichia coli* ATCC® 8739	5 days at 24-26 °C	Sabouraud Dextrose Agar (SDA)	Qualitative	Total inhibition
	Escherichia coli ATCC® 25922				
	Bacillus subtilis subsp. Spizizenii ATCC® 6633				

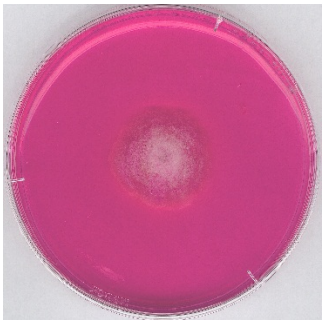
Please refer to the actual batch related Certificate of Analysis.

A recovery rate of 50 % is equivalent to a productivity value of 0.5.



Saccharomyces cerevisisae ATCC® 9763

Rhodotorula rubra DSM 70403



Mucor racemosus ATCC® 42647

Literature

FDA-BAM Chapter 18 (April 2001): Yeasts, Molds and Mycotoxins.

FDA-BAM Media M183: Dichloran rose Bengal chloramphenicol (DBRC) agar, January 2001.

ISO 11133:2014: Microbiology of food and animal feed and water – Preparation, production, storage and performance testing of culture media.

ISO 21527-1:2008: Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of yeasts and moulds – Part 1: Colony count technique in products with water activity greater than 0,95.

Jarvis, B. (1973): Comparison of an improved rose-bengal-chlortetracycline agar with other media for the selective isolation and enumeration of moulds and yeasts in food. J. Appl. Bacteriol. **36**: 723-727.

King, D.A., Hocking, A.D. and Pitt, J.I. (1979): Dichloran-rose Bengal medium for enumeration and isolation of moulds from foods. Appl. Environm. Microbiol. **37**: 959-964.

Ordering Information

Product	Cat. No.	Pack size
GranuCult™ DRBC (Dichloran-Rose Bengal Chloramphenicol) Agar acc. ISO 21527 and FDA-BAM	1.00466.0500	500 g
Peptone from Casein (Tryptone), pancreatically (enzymatically) digested, granulated	1.07213.1000	1 kg
Rose-Bengal Chloramphenicol (RBC) Agar	1.00467.0500	500 g

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