Technical Data Sheet

Differential Reinforced Clostridial Medium (DRCM) Agar

Ordering number: 1.46730.0020

Differential Reinforced Clostridial Medium (DRCM) Agar is used for the detection and enumeration of all sulfite-reducing anaerobes (*Clostridia*) from food and clinical material. The DRCM agar can be used e.g. in accordance with DIN EN 26461 for water analysis.

Ten settle plates each with a diameter of 90 mm are single-bagged in transparent, hydrogen peroxide impermeable sleeves (non-irradiated). The sleeves consist of polypropylene with a barrier of PE-EVOH-PE.

DRCM Agar is also available as bottles:

- DRCM Agar (article number 146370): 250-ml bottle with screw cap, filling volume 200 ml

Mode of Action

DRCM Agar is a nutrient-rich medium containing glucose and cysteine as reducing substances. The redox indicator resazurin indicates anaerobiosis. The formation of black Iron(II) sulfide and thus gray-whitish colonies occurs under complete anaerobiosis through reduction of sulfite to sulfide and reaction with the added and also reduced Fe^{3+} to Fe^{2+}.

The medium is not selective, other spore-forming anaerobes such as *Clostridium butyricum*, lactobacilli and streptococci may grow. Higher selectivity is achieved by heating the samples for 15 minutes at 75 °C, whereby the accompanying vegetative bacteria are killed.

Typical Composition

Meat Extract	8 g/l
Meat Peptone	5 g/l
Casein Peptone	5 g/l
Yeast Extract	1 g/l
Glucose	1 g/l
Sodium Disulfite	0.5 g/l
Ammonium Iron(III) Citrate	0.5 g/l
Sodium Acetate	5 g/l
Cysteine Hydrochloride	0.5 g/l
Starch	1 g/l
Resazurin	2 mg/l
Agar	15 g/l

The appearance of the medium is clear and salmon-colored. The pH value is in the range of 6.9-7.3. The medium can be adjusted and/or supplemented according to the performance criteria required.

Application and Interpretation

Each plate is provided with a label including a data matrix code for paperless plate identification. The code consists of a two-dimensional 20-digit serial number, which harbors the following information:

digits 1-3: here code 186 (corresponds to article 146730); digits 4-9: lot number; digits 10-14: batch specific individual number; digits 15-20: expiration date (YY/MM/DD).

Please check each agar plate before using it on sterility and pay attention to aseptic handling in order to avoid false positive results.

For the bacterial count by the pour-plate method the agar is liquefied at 95 °C in a water bath (200-ml bottles 30 minutes) and then cooled to 44-47 °C in a second water bath (time as above). The complete process of liquefaction, cooling and tempering at 44-47 °C should not take longer than 4 hours. The liquid agar is then poured over the samples in petri dishes and mixed by swirling it around.

For clarification of the blackening of colonies, DRCM agar should be overlaid with another thin layer of DRCM agar after inoculation.

The medium is incubated anaerobically for 46 ± 2 hours at 36 ± 1 °C or for 72 hours at 30 °C. In some cases, the medium should be incubated for up to 7 days.

Storage and Shelf Life

The product can be used for sampling until the expiry date if stored upright, protected from light and properly sealed at +4 °C to +12 °C.

Condensation can be prevented by avoiding quick temperature shifts and mechanical stress.

The testing procedures as described on the CoA can be started up to the expiry date printed on the label.

Disposal

Please mind the respective regulations for the disposal of used culture medium (e.g. autoclave for 20 min at 121 °C, disinfect, incinerate etc.).

Quality Control

Control Strains	ATCC #	Inoculum	Incubation	Expected Results
Clostridium perfringens	13124	100-1000	44-48 h at 35-37 °C (anaerobic)	good growth; grey-whitish, large, arched colonies
Clostridium sordellii	9714	100-1000	44-48 h at 35-37 °C (anaerobic)	good growth; grey-whitish, small colonies
Clostridium sporogenes	19404	10-100	44-48 h at 35-37 °C (anaerobic)	Recovery rate 50 -200 %

Please refer to the actual batch related Certificate of Analysis.

Literature

DIN EN 26461:1993-04 Water quality; detection and enumeration of the spores of sulfite-reducing anaerobes (clostridia); Part 1: method by enrichment in a liquid medium; Part 2: method by membrane filtration.

Gibbs, B.M. and Fraeme, B. (1965): Methods for the recovery of clostridia from foods. J. Appl. Bacteriol. **28:** 95-102.

Hirsch, A. and Grinstead, E. (1954): Methods for the growth and enumeration of anaerobic spore-formers from cheese. J. Dairy Res. **21**: 101-110.

Ordering Information

Product	Cat. No.	Pack size
Differential Reinforced Clostridial Medium (DRCM) Agar	1.46730.0020	20 x 90 mm plates
Differential Reinforced Clostridial Medium (DRCM) Agar	1.46370.0006	6 x 200 ml bottles
mCP (Membrane Clostridium Perfringens) Agar	1.46135.0020	20 x 90 mm plates
TSC (Tryptose Sulfite Cycloserine) Agar	1.46165.0020	20 x 90 mm plates

EMD Millipore Corporation
290 Concord Road
Billerica, MA 01821, U.S.A.
mibio@emdmillipore.com
www.emdmillipore.com/biomonitoring

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