

Technical Data Sheet

DCA (Differential Clostridial Agar) acc. to WEENK et al.

Ordering number: 1.10259.0500

For the enumeration of sulfite-reducing clostridia in dried foods.

Mode of Action

The DCA medium consists of a nutritionally rich base medium, including starch to promote spore germination. Resazurin is added as redox-indicator, turning red at high redox-potential, indicating aerobic conditions. Sulfite and an iron source are added as indicators. Sulfite reducing clostridia produce sulfide from sulfite, which gives a black precipitate with the iron present in the medium. Sulfite reducing clostridia are enumerated as black colonies.

Typical Composition (g/L)

Differential Clostridial Agar (DCA) acc. to WEENK et al.	
Peptone from casein	5.0
Peptone from meat	5.0
Meat extract	8.0
Starch	1.0
D(+)glucose	1.0
Yeast extract	1.0
Cysteinium chloride	0.5
Resazurin	0.002
Agar-agar**	20.0

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

Preparation

Suspend 41.5 g in 1 litre of demineralised water and autoclave (15 min at 121 °C).

Cool to about 48 °C and aseptically add, just before use, 5 ml/ litre medium freshly prepared ferric(III) ammonium citrate solution (1 g in 5 ml demineralised water, heat sterilized: 15 min. at 121°C) and 1.0 ml/litre sodium sulfite solution (1.06657.; 2.5 g in 10 ml demineralized water, filter sterilized).

The complete medium is yellowish to reddish-brown.

pH: 7.6 ± 0.2 at 25 °C.

Experimental Procedure and Evaluation

1 ml sample per plate, pour-plate method. After solidification the plates are overlaid with sterile DCA.

Incubation: At 30 °C for 3 days anaerobically (e.g. with Anaerocult®, Anaerocult® A mini)

Reading of results and interpretation:

Discrete black colonies of 1-5 mm in diameter are considered to be presumptive sulfite-reducing clostridia.

Note: In order to facilitate spore germination, a heat treatment of the spores/sample of 10 minutes at 30 °C before inoculation of the agar is recommended.

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.

The prepared medium is to be used immediately. Do not store.

The base medium can be stored for at least 2 weeks at 4 °C.

Quality Control

Control strains	Growth 48h at 30°C, with Anaerocult® A	Blackening	Recovery
Clostridium perfringens ATCC 10543	Good to very good	+	≥ 70 %
Clostridium sporogenes ATCC 19404 (WDCM 00008)	Good to very good	+	≥ 70 %
Clostridium bifermentans ATCC 19299	Good to very good	+	≥ 70 %
Clostridium perfringens ATCC 13124 (WDCM 00007)	Good to very good	+	≥ 70 %
Bacillus licheniformis ATCC 14580 (WDCM 00068)	Poor to fair	-	

Please refer to the actual batch related Certificate of Analysis.

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



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Literature

WEENK, G., FITZMAURICE, E., MOSSEL, D.A.A.: Selective enumeration of spores of Clostridium species in dried foods. - **J. Appl. Bact.**, **70**; 135-143 (1991).

Ordering Information

Product	Cat. No.	Pack size
Differential Clostridial Agar (DCA) acc. to WEENK	1.10259.0500	500 g
Ammonium iron(III) citrate	Sigma F5879-100G-D	100 g
Sodium sulfite anhydrous for analysis	106657	500 g
Anaerocult® A	1.13829.0001	1 x 10
Anaerocult® A mini	1.01611.0001	1 x 25

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