

27544 Clostridial Differential Broth (DRCM, Differential Reinforced Clostridial Broth)

For the MPN enumeration of all clostridia in food, water and other material acc. to Gibbs and Freame (1965).

Composition:

Ingredients	Grams/Litre
Casein peptone	5.0
Meat peptone	5.0
Meat extract	8.0
Yeast extract	1.0
Starch	1.0
D(+)-Glucose	1.0
L-Cysteine hydrochloride	0.5
Sodium acetate	5.0
Sodium bisulfite	0.5
Ammonium ferric citrate	0.5
Resazurin sodium salt	0.002
Final pH 7.1+/-0.2 at 25 °C	

Store prepared media below 8 °C, protected from direct light. Store dehydrated powder in a dry place in tightly-sealed containers at 2-25 °C.

Directions:

Dissolve 27.5 g in 1 litre distilled water and fill into tubes. Sterilize by autoclaving at 121 °C for 15 minutes. The broth is clear and reddish-brown.

Principle and Interpretation:

Clostridia have the ability to reduce sulfite to sulfide, forming iron sulfide which changes the color of the medium to black. As other bacteria can also produce sulfide, vegetative forms must first be removed from the culture by a relevant treatment, e.g., pasteurization. The anaerobic spore-forming microorganisms must then be identified. Gibbs and Freame (1956) inhibited the growth of most non-spore-forming microorganisms by adding polymyxin B (70 IU/ml; Cat. No. P4932) to the broth. Yeast extract, meat extract, meat peptone, sodium acetate and starch provide essential nutrients for bacterial metabolism. Glucose is the fermentable carbohydrate. The redox indicator resazurin is used to monitor anaerobiosis. L-Cysteine hydrochloride acts as a reducing agent.

Results after 1 week at 30 °C

Organisms (ATCC)	Growth	H ₂ S production (blackening)
<i>Clostridium perfringens</i> (13124)	+++	+
<i>Clostridium sporogenes</i> (11437)	+++	+
<i>Escherichia coli</i> (25922)	+++	-
<i>Bacillus cereus</i> (11778)	+	-
<i>Pseudomonas aeruginosa</i> (27853)	-/+	-



References:

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Precautions and Disclaimer

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