27546 Clostridial Nutrient Medium (Reinforced Clostridial Medium; RCM)
NutriSelect® Basic

For the cultivation and enumeration of clostridia and other anaerobes as well as facultative microorganisms in food, clinical and other material acc. to Hirsch & Grinsted.

Composition:

Ingredients	Grams/Litre
Meat extract	10.0
Peptone	5.0
D (+)- Glucose	5.0
Yeast extract	3.0
Starch	1.0
Sodium chloride	5.0
Sodium acetate	3.0
L-Cysteine hydrochloride	0.5
Agar	0.5

Final pH 6.8 +/- 0.2 at 25°C

Store granulated media below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Appearance(color): Faint yellow to Light yellow to Light beige, free flowing powder
Color and Clarity: Light yellow coloured clear solution in tubes

Directions:
Dissolve 33 g in 1 litre water and sterilize by autoclaving at 121°C for 15 minutes.

Principle and Interpretation:
Reinforced Clostridial Medium is a semisolid medium formulated by Hirsch and Grinstead (1). It can be used to initiate growth from small inocula and to obtain the highest viable count of clostridia. Barnes and Ingram used the medium to dilute vegetative cells of *Clostridium perfringens* (2). It can be used in studies of spore forming anaerobes, especially *Clostridium butyricum* in cheese, for enumeration of Clostridia in tube dilution counts or for preparation of plates for isolation (3).Reinforced Clostridial Medium is a nonselective enrichment medium and grows various anaerobic and facultative bacteria when incubated anaerobically such as *Streptococci* and *Lactobacilli*. Reinforced Clostridial Medium is listed in the USP as the recommended medium for the isolation of *Clostridium sp*. from nonsterile pharmaceutical products (4)

Peptone, yeast extract, meat extract, starch, L-cysteine and sodium acetate provide all the necessary nutrients for the growth of Clostridia. Dextrose is the carbohydrate source. Sodium chloride maintains the osmotic balance. In low concentrations, soluble starch detoxifies metabolic by-products. Cysteine HCl is the reducing agent. Sodium acetate acts as a buffer. The small amount of agar makes the medium semisolid. This media can be made selective by addition of 15-20 mg Polymyxin B per litre of media.

Cultural characteristics observed in an anaerobic atmosphere after an incubation at 35-37°C for 24-48 hours.

Organisms (ATCC/WDCM)	Inoculum (CFU)	Growth
Clostridium sporogenes (11437/-)	50-100	++/+++
*Clostridium sporogenes (*19404/-)	50-100	++/+++
Bacteroides vulgatus (8482/-)	50-100	++/+++
Bacteroides fragilis (23745/-)	50-100	++/+++
Clostridium perfringenes (13124/-)	50-100	++/+++

References:

1. Hirsch and Grinsted, 1954, J. Dairy Res., 21:101.
2. Barnes and Ingram, 1956, J. Appl. Bact., 19:117.
3. Lewis and Angelotti (Eds.), 1964, Examination of Foods for Enteropathogenic and Indicator Bacteria, Dept. of HEW, PHS Publication, 1142, Washington. Reiter B. and Oran J.D., 1962, J. Dairy Res., 29:63
4. United States Pharmacopeial Convention, Inc. 2008. The United States pharmacopeia 31/The national formulary 26, Supp. 1, 8-1-08, online. United States Pharmacopeial Convention, Inc., Rockville, Md.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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