

Karmali Supplement

Cat. 6055

Selective supplement for the isolation of *Campylobacter jejuni* and *Campylobacter coli*.

Practical information

Applications	Categories
Selective enumeration	Campylobacter
Detection	Campylobacter

Industry: Food

Principles and uses

Karmali Agar Base (Cat. 1460) is a medium based in the formula described by Karmali and it is recommended for the isolation of *Campylobacter jejuni* and *Campylobacter coli* from clinical specimens and foods. *Campylobacter* are carried out in the intestinal tract of animals and therefore, contaminated foods of animal origin have been associated with many of these illnesses. *Campylobacter jejuni* and *Campylobacter coli* are the most common *Campylobacter* species associated with diarrheal illness are clinical indistinguishable.

Pancreatic digest of casein, meat peptic digest and heart pancreatic digest provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is a source of vitamins, particularly of the B-group. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Activated charcoal and corn starch decomposes and neutralizes hydrogen peroxide and other toxic metabolites. Bacteriological agar is the solidifying agent.

The antibiotics in the supplement give a certain selectivity to the medium: Vancomycin suppresses Gram positive organisms, Cephoperazone inhibits Gram negative bacteria except *Campylobacter*, and Cycloheximide suppresses fungal growth. Hemin provides important growth factors. Sodium pyruvate is a source of energy for bacterial metabolism and aids in resuscitation of stressed organisms.

With an incubation of 42 °C, the selectivity increases and the growth is faster. Non thermophilic strains don't grow as for example *Campylobacter fetus* subs *fetus*.

The typical colonies of *Campylobacter jejuni* strains are grey, moist, flat spreading colonies.

Formula per vial

Cycloheximide (mg)	50	Cefoperazone (mg)	16
Vancomycin (mg)	10	Sodium pyruvate (mg)	50

Preparation

Aseptically reconstitute 1 vial with 5 ml of distilled water/acetone (1:1). Mix gently until complete dissolution. Aseptically add to 500 ml of Karmali Agar Base (Cat. 1460), autoclaved and cooled to 45-50 °C. Mix well and distribute into sterile containers.

Instructions for use

- Prepare an initial suspension 1:10 in a Bolton Selective Enrichment Broth (Cat. 1441).
- Incubate in a microaerobic atmosphere at 37 °C for 4-6 hours and then at 41,5 °C for 44±4 hours.
- From the culture obtained in the Bolton Broth, inoculate the surface of the first selective medium of Agar mCCDA (Cat. 1129) isolation.
- Inoculate the surface of the second selective isolation medium of *Campylobacter* selected: Skirrow Agar, Karmali Agar and Preston Agar (Cat. 1131).
- Incubate the plates at 41,5 °C in a microaerobic atmosphere for 44±4 hours.
- For confirmation tests, isolate the colonies on Columbia Blood agar plates (Cat. 1104).

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Lyophilized tablet	N/A	Light amber	

Microbiological test

Incubation conditions: (41,5 °C, microaerobic atmosphere / 44±4 h).

Microrganisms

Escherichia coli ATCC 25922

Campylobacter jejuni ATCC 33291

Specification

Inhibition

Good growth

Storage

Temp. Min.:2 °C

Temp. Max.:8 °C

Bibliography

Karmali M.A., Simor A.E., Roscoe M., Fleming P.C, Smith S.S. and Lane J. (1986) J.Clin.Micro. 23. 456-459.

International Organisation for Standardization (ISO), Draft ISO/DIS 10272 (1995).