PRODUCT SPECIFICATION SHEET

Blood Free Campylobacter Selectivity Agar Base (DM055)

Intended Use
Blood Free Campylobacter Selectivity Agar Base (DM055) is recommended for selective isolation and differentiation of *Campylobacter* species from food and animal feed.

Product Summary and Explanation
Campylobacters are considered the main cause of enteric illnesses. They are carried in the intestinal tract of animal and therefore contaminate foods of animal origin.[1] *Campylobacter* causes intestinal distress or abortion in animals. It is also one of the most important causes of human gastroenteritis, particularly in children. Originally, blood was used in the isolation of *Campylobacter*. But, later it was reported by Bolton et al[2] that charcoal can be effectively used in place of blood and this rules out the variability obtained due to the use of blood.
Blood Free Campylobacter Selectivity Agar Base[3] formulated as per APHA[1] and recommended by the ISO Committee[4] is used for selective isolation of *Campylobacter* species. This medium supports the growth of most enteric Campylobacters, it is recommended for the selective isolation of *Campylobacter jejuni*, *Campylobacter coli* and termophilic Campylobacteria, in foods and in clinical and non clinical specimens. Improved selectivity was achieved when cephazolin in the original formulation was replaced by cefoperazone as the selective agent.[5] *Campylobacter* species are highly resistant to cefoperazone, an antibiotic which effectively suppresses growth of *Pseudomonas* and *Enterobacteriaceae*.[7,8,9] The medium is also known as Campylobacter Charcoal Differential Agar (CCDA) due to this addition of cefoperazone.

Principles of the Procedure
Blood Free Campylobacter Selectivity Agar Base contains peptone, casein enzymic hydrolysate and meat extract B which are sources of essential nutrients and amino acids. Casein is added to help grow certain strains of nalidixic acid resistant thermophilic *Campylobacter* that are environmental organisms.[6] Ferrous sulfate, Sodium pyruvate and Charcoal to promote the growth of Campylobacter species, as they quench the toxic forms of oxygen (hydrogen peroxide) increasing the aerotolerance and enabling the oxygen sensitive strains to be readily isolated.[9] Sodium desoxycholate partially or completely inhibits Gram positive organisms, coliforms and Proteus. Colonies tend to swarm when initially isolated from clinical specimens. The addition CCDA Supplement: Cefoperazone increases selectivity and inhibits the growth of Gram negative enteric bacilli and some Gram positive species, while Amphotericin B suppresses growth of yeast and fungal contaminants that may occur at 37°C, a temperature shown to increase selectivity.

Formula / Liter

Ingredients	Gms / Liter
Meat extract B (Equivalent to Beef extract)	10.00
Peptone	10.00
Casein enzymic hydrolysate	3.00
Sodium chloride	5.00
Sodium deoxycholate	1.00
Ferrous sulphate	0.25
Sodium pyruvate	0.25
Charcoal, bacteriological	4.00
Agar	12.00
Final pH: 7.4 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

PRODUCT SPECIFICATION SHEET

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 22.75 grams of the medium in 500 ml of distilled water.
2. Heat to boiling to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Cool to 45-50°C and aseptically add rehydrated contents of 1 vial of Campylobacter pylori Selective Supplement-V (BFCSA) (MS009). Alternatively to increase the selectivity of the medium, rehydrated content of one vial of CAT Selective Supplement (MS116) may be added to 500 ml sterile molten base.
5. Mix well and pour into sterile Petri plates.

Quality Control Specifications

Dehydrated Appearance	Grey to black homogeneous free flowing powder
Prepared Medium	Black coloured, opaque gel forms in Petri plates
Reaction of 4.55% Solution	pH : 7.4 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.2% Agar gel

Expected Cultural Response: Cultural characteristics observed with added Campylobacter Supplement V (MS009), after an incubation at 42°C for 24-48 hours.

Sr. No.	Organisms	Results to be achieved			
		Inoculum (CFU)	Growth	Recovery	Colour of Colony
1.	*Campylobacter coli ATCC 33559*	50 - 100	good-luxuriant	>=50 %	creamy-grey
2.	*Campylobacter jejuni ATCC 29428*	50 - 100	good-luxuriant	>=50 %	grey
3.	*Escherichia coli ATCC 25922*	>=10^3	inhibited	0%	--
4.	*Campylobacter laridis ATCC 35222*	50 - 100	good-luxuriant	>=50 %	varying type

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

Refer to appropriate references for standard test procedures.

Results

C. jejuni produces gray, moist, flat, spreading colonies. *C. coli* colonies are creamy-gray, moist, slightly raised and tend to be discrete. Refer to appropriate references for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

PRODUCT SPECIFICATION SHEET

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Blood Free Campylobacter Selectivity Agar Base

Product Code : DM055

Available Pack sizes : 500gmReferences

1. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
2. Bolton F. J., Hutchinson D. N and Coates D., 1984, J. Clin. Microbiol., 19:169.
3. Atlas R. M., 2004, Handbook of Microbiological Media, 3rd Ed, CRC Press.
4. International Organization for Standardization (ISO), 1995, Draft ISO/DIS 10272.
5. Hutchinson D. N and Bolton F.J., 1984, J. Clin. Pathol., 34:956.
6. Koneman E. W., Allen S. D., Janda W. M., Schreckenberger P. C., Winn W. C. Jr., 1992, Colour Atlas and Textbook of Diagnostic Microbiology, 4 th Ed., J. B. Lippinccott Company.
7. Ahonkai V. I., et al, 1981, Antimicrob. Agents. Chemother.,20:850
8. Jones R. N., et al, 1980, Antimicrob. Agents. Chemother.,17:743
9. Karmali M. A., et al, 1986, J. Clin. Microbiol., 23:456.

Further Information

For further information please contact your local MICROMASTER Representative.

MICROMASTER LABORATORIES PRIVATE LIMITED

Unit 38/39, Kalpataru Industrial Estate,
Off G.B. Road, Near 'R-Mall' , Thane (W) – 400607. M.S. INDIA.
Ph: +91-22-25895505, 4760, 4681. Cell: 9320126789.
Email: micromaster@micromasterlab.com
sales@micromasterlab.com

DM055PSS, QAD/FR/024,Rev.00/01.01.2018

	Checked By	Approved By
Microbiologist	Head Quality Control	Head Quality Assurance

PRODUCT SPECIFICATION SHEET

Disclaimer :

All Products conform exclusively to the information contained in this and other related Micromaster Publications. Users must ensure that the product(s) is appropriate for their application, prior to use. The information published in this publication is based on research and development work carried out in our laboratory and is to the best of our knowledge true and accurate. Micromaster Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are intended for laboratory, diagnostic, research or further manufacturing use only and not for human or animal or therapeutic use, unless otherwise specified. Statements included herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.