



PRODUCT SPECIFICATION SHEET

China Blue Lactose Agar (DM060)

Intended Use

China Blue Lactose Agar (DM060) is recommended for differentiation and enumeration of bacteria in milk.

Product Summary and Explanation

Raw milk as it leaves the udder of healthy animals normally contains very low numbers of microorganisms. When it leaves the udder, it may become contaminated with microorganisms from the surface of the cow, the environment, and unclean milking system.⁽¹⁾ Raw milk shows presence of Gram-positive cocci as normal flora of raw milk.⁽²⁾ It may get contaminated with organism associated with foodborne illness through infected animals, milking personnel or the environment. Members of coliform group are the predominant bacteria in pasteurized milk.⁽³⁾ China Blue Lactose Agar originally formulated by Brandl and Sobeck-skal.⁽⁴⁾ It is a standard, non-inhibitory solid medium for the differentiation of lactose fermenters from the non-lactose fermenters and enumeration of bacteria in milk. The medium does not contain any inhibitory substances therefore all the organisms present in milk sample grow luxuriantly on this medium. The china blue serves as a pH indicator, to differentiate between lactose fermenters and non-lactose fermenters, but does not suppress the growth of cocci; therefore this medium may be used for the detection of streptococci and staphylococci as well as the coli-aerogenes group.

Principles of the Procedure

China Blue Lactose Agar contains peptic digest of animal tissue and beef extract are the sources of carbon, nitrogen and essential growth nutrients. Lactose serves as a source of energy and carbon by being the fermentable carbohydrate. Sodium chloride helps to maintain the osmotic equilibrium of the medium. China blue is the pH indicator that changes from colourless to blue due to degradation of lactose to acid, thus differentiating lactose-fermenters from non-fermenters.

Formula / Liter

| Ingredients | Gms / Liter |
|--|-------------|
| Peptic digest of animal tissue | 5.00 |
| Beef extract | 3.00 |
| Lactose | 10.00 |
| Sodium chloride | 5.00 |
| China blue | 0.30 |
| Agar | 15.00 |
| Final pH: 7.0 ± 0.2 at 25°C | |
| Formula may be adjusted and/or supplemented as required to meet performance specifications | |

Precautions

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

Directions

1. Suspend 38.3 grams of the medium in one liter 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. Mix well and pour into sterile petri plates.





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Quality Control Specifications

| | |
|----------------------------|---|
| Dehydrated Appearance | Light yellow to greenish yellow homogeneous free flowing powder |
| Prepared Medium | Light blue coloured, clear to slightly opalescent gel forms in Petri plates |
| Reaction of 3.83% solution | pH 7.0 \pm 0.2 at 25°C |
| Gel Strength | Firm, comparable with 1.5% Agar gel |

Expected Cultural Response: Cultural characteristics observed after an incubation at 35-37°C for 22-24 hours.

| Sr. No. | Organisms | Results to be achieved | | | |
|---------|---|------------------------|----------------|------------|------------------|
| | | Inoculum (CFU) | Growth | Recovery | Colour of Colony |
| 1. | <i>Enterococcus faecalis</i> ATCC 29212 | 50-100 | good-luxuriant | \geq 70% | blue |
| 2. | <i>Escherichia coli</i> ATCC 25922 | 50-100 | good-luxuriant | \geq 70% | blue |
| 3. | <i>Proteus vulgaris</i> ATCC 13315 | 50-100 | good-luxuriant | \geq 70% | colourless |
| 4. | <i>Salmonella Typhi</i> ATCC 6539 | 50-100 | good-luxuriant | \geq 70% | colourless |
| 5. | <i>Shigella flexneri</i> ATCC 12022 | 50-100 | good-luxuriant | \geq 70% | colourless |
| 6. | <i>Staphylococcus aureus</i> ATCC 25923 | 50-100 | good-luxuriant | \geq 70% | colourless |

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

Refer to appropriate references and standard test procedures 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.

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 : China Blue Lactose Agar

Product Code : DM060

Available Pack sizes : 500gm

References

1. Thomas S. B., 1974, the Microflora of Bulk Collected Milk- Part 2, Dairy Ind. Int. 39 (8): 279.





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2. De Vries T. 1975, Neth. Milk Dairy J., 29:127.
3. Cousin M. A., 1982, J. Food Prot., 45:172.
4. Brandl E. and Sobeck - Skal E., 1963, Milchwiss. Ber., 13:1.

Further Information

For further information please contact your local MICROMASTER Representative.



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