22520 China Blue Lactose Agar NutriSelect® Basic

Selective medium for differentiating lactose fermenting and lactose non-fermenting microorganisms.

Composition:

Ingredients	Grams/Litre
Meat extract	3.0
Casein peptone	5.0
Sodium chloride	5.0
Lactose	10.0
China blue	0.375
Agar	12.0

Final pH 7.0 +/- 0.2 at 25°C

Store dehydrated powder between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Protect from moisture and light by keeping container in a low humidity environment. Use before expiry date on the label

Appearance(color): Faintly blue to light to blue, free flowing powder
Gelling: Firm, comparable with 1.5% Agar gel
Color and Clarity: Light blue coloured, clear to slightly opalescent gel forms in Petri plates

Directions:
Dissolve 35.5 g in 1 litre distilled water. Sterilize by autoclaving at 121°C for 15 minutes.

Principle and Interpretation:
Raw milk as it leaves the udder of healthy animals normally contains very low numbers of microorganisms. After it leaves the udder, it may become contaminated with microorganisms from the surface of the cow, the environment, and unclean milking system (5). Gram-positive cocci are usually present as normal flora of raw milk (4). Raw milk may get contaminated with organism associated with foodborne illness through infected animals, milking personnel, or the environment. The predominant bacteria in pasteurized milk are members of coliform group (3).
China Blue Lactose Agar was formulated by Brandl and Sobeck-Skal(1) . A standard, non-inhibitory solid medium for the differentiation and enumeration of bacteria in milk, proposed by the Methodenkommission für Milchwirtschaft (2). 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.
Casein peptone and meat extract are the sources of carbon, nitrogen, and essential growth nutrients. Lactose, being the fermentable carbohydrate serves as a source of energy. Sodium chloride helps to maintain the osmotic balance of the medium. China blue is the pH indicator that changes from colorless to blue due to degradation of lactose to acid, thus differentiating lactose-fermenters from non-fermenters.

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

Organisms (ATCC/WDCM)	Inoculum (CFU)	Growth	Recovery	Appearance of Colony
Escherichia coli (25922/ 00013)	50-100	+++	≥70%	blue
Proteus vulgaris (13315/-)	50-100	+++	≥70%	colorless
Salmonella Typhi (6539/-)	50-100	+++	≥70%	colorless
Enterococcus faecalis (29212/00087)	50-100	+++	≥70%	blue
Staphylococcus aureus subsp. aureus A (25923/00034)	50-100	+++	≥70%	colorless
Shigella flexneri (12022/00126)	50-100	+++	≥70%	colorless

References:

1. Brandl E. and Sobeck-Skal E. (1963) Milchwiss. Ber. 13. 1-9.
2. Methodenbuch Band VI. Verband Deutscher Landwirtschaftlicher Untersuchungs und Forschungsanstalten. 1970.
3. Cousin M. A., 1982, J. Food Prot., 45:172
4. De Vris T. 1975, Neth. Milk Dairy J., 29:127
5. Thomas S. B., 1974, the Microflora of Bulk Collected Milk- Part 2, Dairy Ind. Int. 39 (8): 279

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.