Technical Information

Chloramphenicol Yeast Glucose Agar

Product Code: DM 2008

Application: - Chloramphenicol Yeast Glucose Agar is a selective medium recommended for selective enumeration of yeasts and moulds in milk and milk products.

Composition**

Ingredients	Gms / Litre
Yeast extract	5.000
Dextrose	20.000
Chloramphenicol	0.100
Agar	14.900
Final pH (at 25°C)	6.6±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Chloramphenicol Yeast Glucose Agar is a selective medium recommended for isolation and enumeration of fungi-yeasts and moulds in milk and milk products[1-3]. Recently this medium has been recommended by ISO committee for the enumeration of yeasts and moulds[4]. The medium contains yeast extract, which provides nitrogenous nutrients and vitamin B complex. Dextrose is the energy source. Chloramphenicol, a thermostable antibiotic, suppresses accompanying bacterial flora. This improves shelflife of the prepared medium which can be used over a period of at least 4 months[5] when stored properly.

Technique: Take two sterile Petri plates and transfer 1 ml of sample (if liquid) or 1 ml of the initial suspension in case of other product is solid. Further take another two sterile plates and transfer 1 ml of 10^{-1} dilution to each sterile Petri plate or 1 ml of 10-2 dilution for other products. Repeat the procedure using further dilutions if necessary. Pour about 15 ml of Chloramphenicol Yeast Glucose Agar[5] previously melted and maintained at 45 ± 1°C. The time elapsing between the end of the preparation of the initial suspension and the moment when the medium is poured into the dishes shall not exceed 15 minutes. Carefully mix the inoculum with the medium and allow it to solidify. Prepare control plate to check the sterility. Incubate the plates at 25 ± 1°C. Count the colonies on each plate after 3, 4 and 5 days incubation. It is necessary to carry out a microscopic examination in order to distinguish, according to their morphology, the colonies of yeast and moulds from colonies of bacteria.

It is advisable to examine the plates at the end of three days for yeast colonies, as they are likely to be overgrown by mould growth. Make a separate count of yeast colonies, which are characterized, as smooth, moist, elevated surface colonies. Count mould colonies, which are recognized by their profused growth of hyphae. If only yeast counts are required, add 0.25% of sterile sodium propionate solution to the medium at the time of preparation of plates to inhibit the growth of moulds[6].

Methodology

Suspend 40 grams of powder media in 1000 ml distilled water. Shake well & heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (12 1°C) for 15 minutes. Mix well and pour into sterile Petri plates.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.49% Agar gel.

Colour and Clarity of prepared medium

Yellow coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 4.0% w/v aqueous solution at 25°C. pH : 6.6±0.2

pH range 6.40-6.80

Cultural Response/ characteristices

DM 2008: Cultural characteristics observed after an incubation at 22-25°C for 2-5 days.

Organism	Inoculum (CFU)	Growth	Recovery
Aspergillus brasiliensis ATCC 16404	50-100	good-luxuriant	
Candida albi cans ATCC 10231	50-100	good-luxuriant	>=50%
Escherichia coli ATCC 25922	>=10^3	inhibited	
Saccharomyces cerevisiae ATCC 9763	50-100	good-luxuriant	
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	0%

Storage and Shelf Life

Dried Media : Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media : 2-8^{o} in sealable plastic bags for 2-5 days.

Further Reading

1. DIN Deutsches Institut fur Normung e.v. Reterenzverfahren DIN 10186.
2. International Organization for Standardization (ISO), Draft ISO/DIS 6611.
3. Internationaler Milchwirtschaftsverband: Internationaler IMV-Standard 94 1980.
4. International Organization for Standardization (ISO), 1987, Draft ISO/DIS 7954.
5. Engel G., 1982, Milchwiss, 37:727.
6. International Organization for Standardization (ISO), 1999, ISO 5403:1999.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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