Dichloran Glycerol(DG-18) Agar

Catalog : HB0296-3

Dichloran Glycerol(DG-18) Agar is used for selective isolation of mold and yeast from food samples.

Approximate Formula:

Ingredients	gm/liter
Peptic Digest of Animal Tissue	5.0
Dextrose	10.0
Monopotassium phosphate	1.0
Magnesium sulfate	0.5
Zinc sulfate	0.01
Copper sulfate	0.005
Dichloran	0.002
Chloramphenicol	0.05
Chlortetracycline Hydrochloride	0.05
Agar	15.0

Final pH5.6±0.2 at 25℃

*Adjusted and/or supplemented as required to meet performance criteria.

Directions:

Suspend 31.6 g of the medium and 175mL of glycerol in one liter of distilled water or deionized water. Mix well and heat with frequent agitation to completely dissolve the powder. Sterilize in an autoclave at 121℃(15 lbs.) for 15 minutes.

Principle and Interpretation:

Peptic digest of animal tissue provides nitrogen, vitamins and minerals. Dextrose is a carbohydrate source. Phosphate is a buffering agent. Magnesium sulfate, zinc sulfate and copper sulfate are source of divalent cations and sulfate. Glycerol can reduce the water activity to prevent the growth of bacteria. The antifungal agent, dichloran, is added to the medium to reduce colony diameters of spreading fungi. The pH of the medium is reduced from 7.2 to 5.6 for improved inhibition of the spreading fungi. Chloramphenicol and Chlortetracycline hydrochloride is included in this medium to inhibit the growth of bacteria present in environmental and food samples. Inhibition of growth of bacteria and restriction of spreading of more-rapidly growing molds aids in the isolation of slow-growing fungi by preventing their overgrowth by more-rapidly growing species. Agar is the solidifying agent.

Appearance:

Dehydrated medium is a free-flowing yellowish powder. The prepared medium is a kind of milk white transparent gel.

Precautions:

This medium is for laboratory use only. Dried medium which is caking or color variation cannot be used.

Storage conditions and Shelf life:

Dichloran Glycerol(DG-18) Agar must be stored tightly capped in the original container at 5-30°C.The dehydrated medium has a shelf life of 5 years from date of manufacturing. Prepared medium may be stored, out of direct light at 2-8°C.

Quality control:

Prepare the culture medium as per label directions. Inoculate and incubate at 25℃ for 48-168 hours.

Microorganism	Strains Number	Inoculum (CFU)	Growth	Recovery	Remarks
Aspergillus Niger	ATCC 16404	20-200	Luxuriant	≥70%	White hypha
Candida Albicans	ATCC 10231	20-200	Luxuriant	≥70%	Cream colonies
Saccharomyces Cerevisiae	ATCC 9763	20-200	Luxuriant	≥70%	Cream colonies
Escherichia coli	ATCC 25922	>10^3	Inhibited	/	/

References:

1.Beuchat, L.R. and Hwang, C.-A. (1995): Evaluation of modified dichloran 18% glycerol(DG18) agar for enumerating fungi in wheat flour. Int. J. Food Microbiol. 29: 161-166.

2.FDA-BAM (2001) Chapter No. 18: Yeasts, Molds and Mycotoxins. U.S. Food and Drug Administration - Bacteriological Analytical Manual

3.Hocking, A.D. and Pitt, J. I. (1980): Dichloran-glycerol medium for enumeration of Xerophilus fungi from low-moisture foods. Appl Environ. Microbiol. 39: 488-492.

4.ISO International Standardisation Organisation. Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of yeasts and moulds - Part 2:Colony count technique in products with water activity less than or equal to 0,95. ISO21527-2:2008.

5.ISO International Standardisation Organisation. Microbiology of food, animal feed and water - Preparation, production, storage and performance testing of culture media. EN ISO 11133:2014.