DICHLORAN GLYCEROL (DG-18) AGAR BASE (7592)

Intended Use

Dichloran Glycerol (DG-18) Agar Base is used for the selective isolation and enumeration of yeasts and molds from foods.

Product Summary and Explanation

Dichloran Glycerol Agar Base is based on the formulation by Hocking and Pitt.[1] This medium is recommended for enumeration and isolation of yeasts and molds from dried and semi-dried foods, including fruits, spices, cereals, nuts, meat, and fish products. The highly selective composition of this medium allows for enumeration of fungal growth. In a comparative study between DG-18 Agar Base and DRBC Agar, greater recovery of two molds commonly isolated in high numbers from dried foods grew poorly on DRBC Agar.[1]

A modification of DG-18 Agar Base, enhanced with Triton-X, is described as increasing inhibition of vigorously-spreading fungi.[2]

Principles of the Procedure

Peptone provides nitrogen and vitamins required for organism growth. Glucose is included as an energy source. Monopotassium Phosphate is a buffering agent. Magnesium Sulfate, Zinc Sulfate, and Copper Sulfate are inorganic salts used to stimulate fungal growth and sporulation. The antifungal agent, Dichloran, inhibits fungi from spreading and restricts colony size. Chloramphenicol inhibits growth of bacteria present in environmental and food samples. Chlortetracycline is a broad-spectrum antibiotic, inhibiting a wide range of gram-positive and gram-negative bacteria. Agar is the solidifying agent. Glycerol is added as a carbon source.

Formula / Liter	
Peptone	5 g
Glucose	10 g
Monopotassium Phosphate	1 g
Magnesium Sulfate	0.5 g
Zinc Sulfate	0.01 g
Copper Sulfate	0.005 g
Dichloran	0.002 g
Chloramphenicol	0.05 g
Chlortetracycline	0.05 g
Agar	15 g

Supplement
Glycerol, 220 g

Final pH: 5.6 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precautions

1. For Laboratory Use.
2. VERY TOXIC. Toxic by inhalation and contact with skin, respiratory system, and digestive tract.

Directions

1. Suspend 31.6 g of the medium and 220 g of glycerol in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes. DO NOT OVERHEAT.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and beige.

Prepared Appearance: Prepared medium is trace to slightly hazy and beige.

Expected Cultural Response: Cultural response on DG-18 Agar Base at 25°C after up to 7 days incubation.

Microorganism	Response
Aspergillus niger ATCC® 16404	growth
Bacillus subtilis ATCC® 9372	inhibited
Candida albicans ATCC® 10231	growth
Escherichia coli ATCC® 25922	inhibited
Penicillium roquefortii ATCC® 10110	growth
Saccharomyces cerevisiae ATCC® 9763	growth

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

Test Procedure

Refer to appropriate references in standard methods for applications using DG-18 Agar Base for yeast and mold testing.

Results

Observe and record number of yeasts and/or molds present. Report as appropriate per/sample being tested.

Storage

Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration

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

Limitations of the Procedure

1. Complete classification of yeast and molds is dependent upon microscopic observations of direct and/or slide culture preparations, along with biochemical and serological tests.
2. Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Packaging

Dichloran Glycerol (DG-18) Agar Base	**Code No.**	**7592A**	**500 g**
		7592B	**2 kg**
		7592C	**10 kg**

References

1. **Hocking, A. D., and J. I. Pitt.** 1980. J. Appl. & Env. Microbiol. **39**:488-492.
2. **Beuchat, L. R., and C. A. Hwang.** 1996. Int. J. Food Microbiol. **29**:161-166.

Technical Information

Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (410)780-5120 or fax us at (410)780-5470.