

HYCON® Agar Strips DG-18

Technical Data Sheet

Ordering number: 1442450025

HYCON® Agar Strips DG-18 are ready-to-use culture media for assessment of airborne, xerophilic molds with HYCON® Microbial Air Samplers, i.e. RCS® High Flow Touch, RCS® High Flow, RCS® Plus, RCS® Plus Ex and RCS® Standard.

Each agar strip is individually sealed in the transparent, primary package. The agar is filled in a flexible backing film. The formulation of the medium is a Dichloran Glycerol Chloramphenicol Agar (DG-18) according to FDA BAM M184 and ISO 21527-2.

Mode of Action

DG-18 is a selective medium for isolation and detection of xerophilic molds. Accompanying bacterial flora is inhibited by the addition of chloramphenicol and glycerol, which reduces the water activity to 0.95. The inclusion of di-chloran serves to inhibit the rapid spreading of mucoraceous fungi and restricts colony sizes of other genera, easing the colony count. The enzy-matic digest of casein is a nitrogen source containing a high level of free amino acids and glucose provides an energy source for the growth.

Typical Composition

Casein enzymatic digest	5 g/l
D(+) Dextrose	10 g/l
KH ₂ PO ₄	1 g/l
MgSO ₄	0.5 g/l
Dichloran	0.002 g/l
Chloramphenicol	0.1 g/l
Glycerol	220g/l
Agar	15 g/l
Supplements such as buffers	

The appearance of the medium is yellowish brown and slightly opalescent. The pH value is in the range of 5.4 to 5.8. The medium can be adjusted and/or supplemented according to the performance criteria required.

Application and Interpretation

Prior to use the agar strip should be equilibrated to room temperature. Please check each agar strip before use to verify sterility and take care on aseptic handling in order to avoid false positive results. Contaminated or dehydrated agar strips should not be used for sampling.

Open the wrapper approximately at 1/3 by peeling back the plastic seal at the rounded side of the wrapper. Remove the agar strip with the coated side facing downwards. Insert the agar strip into the opening of the rotor, or the impeller drum according to the directions outlined in the user manual of the respective microbial air sampler. Place the instrument into required position, choose the appropriate sample volume and start the air sampling procedure.

When sampling is finished, remove the agar strip and place it back into the original wrapper. Seal the wrapper with an adhesive tape or Cover Slides (Order. No. 1.44111.0100). Label the wrapper e.g. with a waterproof pen for identification. The closed agar strips are transferred to an incubator.

Incubate under aerobic conditions, e.g. acc. to ISO 21527-2 at 24-26 °C for 5-7 days. If necessary, leave the plates to stand in diffuse daylight for 1-2 days.

If the presence of *Xeromyces bisporus* is suspected, incubate the plates for 10 days.

Finally, the number of CFU per slide is examined.

Grown colonies may be identified using suitable methods related to root cause analysis programs or to support sanitizing management.

Important Notes

- Practice aseptic technique when handling agar strips.
- The coated surface of the agar strips should face down during incubation in order to avoid the formation of satellites by condensing water.

Storage

The product can be used until the expiry date if stored in the original box, protected from light and properly sealed at the temperature range indicated on the box label. The total shelf from the date of production is 6 months.

Condensation can be prevented by avoiding quick temperature shifts and mechanical stress. Upon storage agar strips should not be placed near heat sources such as refrigerators with heat-emitting condensers. Boxes should be stored with the coated side of the agar strip facing downwards.



Disposal

Please mind the respective regulations for the disposal of used culture medium (e.g. autoclave for 20 min at 121°C, disinfect, incinerate etc.).

Quality Control

Control Strains	ATCC #	Inoculum	Incubation	Recovery
<i>Candida albicans</i>	10231	10-100 CFU	≤ 72h at 20-25°C	50-200%
<i>Mucor racemosus</i>	42647	10-100 CFU	≤ 72h at 20-25°C	50-200%
<i>Bacillus subtilis</i>	6633	> 1 0 CFU	24-48h at 30-35°C	≤ 30%%

Please refer to the actual batch related Certificate of Analysis.

Quality

This product is manufactured in a Millipore SAS facility whose quality management system is approved by an accredited registration body to ISO 9001 quality standard.

This product is manufactured in a Millipore SAS facility whose environmental management is approved by an accredited registration body to the appropriate ISO 14001 systems standard.

Literature

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.

Corry, J.E.L., Curtis, G.D.W. and Baird, R.M. (2012): *Handbook of Culture Media for Food and Water Microbiology*, pp. 735-737. Royal Society of Chemistry, Cambridge, UK.

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

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.

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. ISO 21527-2:2008.

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The logo for MilliporeSigma, featuring the word "MILLIPORE" in a bold, blue, sans-serif font above the word "SIGMA" in a similar font.