INHIBITORY MOLD AGAR (IMA)

PRODUCTS:

Plated Media:[a]

Inhibitory Mold Agar	303429, P1725 (double pour)
Inhibitory Mold Agar with Ciprofloxacin	P1728

Tubed and Bottled Media:[a]

Inhibitory Mold Agar	T6647, T6645 (slant), B5129 (2 oz. bottle)
Inhibitory Mold Agar with Ciprofloxacin	T6648 (slant)

[a]See catalog for ordering options

PURPOSE:

Inhibitory Mold Agar (IMA) is a selective media used for the isolation of pathogenic fungi, especially *Histoplasma capsulatum* and dermatophytes from sites normally contaminated with saprophytic bacteria. It may also be used for the isolation of *Actinomyces* species and *Blastomyces* species.

PRINCIPLE:

Inhibitory Mold Agar was devised by Ulrich,[6] and is used as general cultivation media for pathogenic fungi. The media contains rich nutritional factors, such as peptones, dextrose, starch, and yeast extract, and inorganic salts designed to support the growth of most pathogenic fungi. Ciprofloxacin[7] and/or chloramphenicol are added to suppress the growth of most bacteria.

FORMULAS:

Approximate, per liter deionized filtered water.

(1) Inhibitory Mold Agar:

Pancreatic Digest of Casein	3.00 g
Peptic Digest of Animal Tissue	2.00
Yeast Extract	5.00
Dextrose	5.00
Soluble Starch	2.00
Dextrin	1.00
Sodium Phosphate	2.00
Magnesium Sulfate	0.80
Iron Sulfate	0.04
Sodium Chloride	0.04
Manganese Sulfate	0.16
Agar	15.00
Chloramphenicol	125.00 mg

Final pH 6.7 ± 0.2 at 25°C

(2) Inhibitory Mold Agar with Ciprofloxacin:

Same as **(1)** with the addition of 50.0 mg of Ciprofloxacin

PRECAUTIONS:*

For *in vitro* diagnostic use. Observe approved biohazard precautions.

Storage: Upon receipt store at 2-8°C away from direct light. Media should not be used if there are signs of contamination, deterioration (shrinking, cracking, or discoloration), or if the expiration date has passed.

Limitations: Organisms, which grow on Inhibitory Mold Agar, must be classified by physiological, biochemical, and/or serological means to secure a definitive identification.

Because ciprofloxacin and/or chloramphenicol are the only antibiotics present in this media, saprophytic molds may grow.

If systemic or subcutaneous mycotic agents are suspected, two slants should be inoculated and incubated at 25°C and 35°C, respectively. Additionally, parallel nonselective media such as Brain Heart Infusion Agar should be inoculated if *Nocardia* or *Streptomyces* are suspected.

Certain *Trichophyton* species have specific nutritional requirements for good growth.

If *Trichophyton verrucosum* is suspected, the slant should be incubated at 35°C.

The media is inappropriate for culturing sterile body fluids due to the incorporation of chloramphenicol and ciprofloxacin.

Selective media often inhibit, to some extent, specific strains of fungi which they are designed to isolate, while other fungi resistant to the concentration of the antimicrobic may grow.

PROCEDURE:*

Specimen Collection: Infectious material should be submitted directly to the laboratory in a sterile container or appropriate transport media. Avoid airtight containers in which moisture might enhance the multiplication of contaminating bacteria. Consult appropriate references for specimen collection and transport.[3,7] Samples should be processed as soon as possible after arrival in the laboratory. Observe appropriate biohazard precautions when handling the specimen.

Method of Use: Prior to inoculation, the media should be brought to room temperature. Cutaneous specimens, biopsy, or autopsy specimens can be processed by using a tissue grinder or can be lightly embedded in the agar. Plates should be incubated at 25°-30°C with increased humidity, agar side up. Slants and bottled media should be incubated aerobically at 25°C. This temperature is satisfactory for the recovery of most dermatophytes. If systemic or subcutaneous mycotic infection is suspected, two slants should be inoculated; incubate one tube at 25°C and one tube at 35°C. Incubate aerobically for 4-6 weeks, examining for growth weekly. At the end of 6 weeks, the culture may be considered negative.

Interpretation: Once growth occurs, note each specific type of colony morphology by gross appearance (topography, texture, and pigmentation). Subculture onto appropriate media and perform specific biochemical/serological and microscopic tests to secure a definitive identification of the organism.

Materials Required but Not Provided: Standard microbiological supplies and equipment such as those products commonly used in a microbiological laboratory are not provided.

QUALITY CONTROL:*

Microorganisms Used (ATCC #):	**Expected Results:**
Aspergillus brasiliensis (16404)	Growth
Trichophyton mentagrophytes (9533)	Growth
Candida albicans (10231)	Growth
Escherichia coli (25922)	Inhibition, partial to complete
Pseudomonas aeruginosa (27853)	Inhibition, partial to complete (IMA w/ciprofloxacin)

User Quality Control: Check for signs of contamination and deterioration. Inhibitory Mold Agar should appear slightly hazy, and light yellow to tan in color.

BIBLIOGRAPHY:

1. Georg, L. K., et al., *Science*, *114*:387, 1951.
2. MacFaddin, J. F., *Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria,* vol. 1, Williams and Wilkins, Baltimore, 1985.
3. Murray, P.R., et al., *Manual of Clinical Microbiology*, 9th ed., American Society for Microbiology, Washington, D. C., 2007.
4. Personal Communication, Mayo Clinic Seminar, Vancouver, B.C., April, 1990.
5. Rosenbury, T., et al., *J. Infect. Dis.*, *74*:131, 1944.
6. Ulrich, J. A., *Bacteriol. Proc.*, M75:87, 1956.
7. Washington, J. A., Jr., *Laboratory Procedures in Clinical Microbiology*, Springer-Verlag, New York, 1981.

*For more detailed information, consult appropriate references.

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