MYCOBIOTIC AGAR

INTENDED USE
Remel Mycobiotic Agar is a solid medium recommended for use in qualitative procedures for primary isolation and cultivation of pathogenic fungi, especially from clinical specimens which may be contaminated with bacteria and saprophytic fungi.

SUMMARY AND EXPLANATION
Leach, Ford, and Whitten described the use of cycloheximide as a selective agent for inhibition of saprophytic fungi.[1] In 1958, Huppert and Walker added cycloheximide and chloramphenicol to mycological agar for isolation of *Coccidioides immitis*.[2] This agar became known as Mycobiotic Agar.[3] It is recommended for recovery of dimorphic fungi and dermatophytes from clinical specimens potentially contaminated with bacteria and saprophytic fungi.[4,5]

PRINCIPLE
Soy peptone supplies nitrogenous compounds, amino acids, and peptides necessary for the growth of fungi. Dextrose is a source of energy which serves to support the growth of fungi. Cycloheximide and chloramphenicol are selective agents. Cycloheximide inhibits rapidly growing saprophytic fungi that may overgrow slower growing pathogens. Chloramphenicol is a broad-spectrum antibiotic which inhibits gram-positive and gram-negative bacteria, as well as *Nocardia* spp.

REAGENTS (CLASSICAL FORMULA)*

Soy Peptone	10.0 g	Chloramphenicol	50.0 mg
Dextrose	10.0 g	Agar	15.0 g
Cycloheximide	400.0 mg	Demineralized Water	1000.0 ml

pH 6.5 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PROCEDURE
1. Inoculate and streak the specimen as soon as possible after it is received in the laboratory. Consult appropriate references for information regarding specimen processing and inoculation.[4,5]
2. Inoculate selective and nonselective media for isolation of fungi from potentially contaminated sources.
3. Incubate the plates at 25-30°C in an inverted position with increased humidity for 30 days or longer in an aerobic atmosphere.
4. Examine media for fungal colonies exhibiting typical color and morphology.

QUALITY CONTROL
All lot numbers of Mycobiotic Agar have been tested using the following quality control organisms and have been found to be acceptable. This quality control testing meets or exceeds CLSI standards.[6] Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, patient results should not be reported.

CONTROL	INCUBATION	RESULTS
**Candida albicans* ATCC® 10231	Aerobic, up to 72 h @ 25-30°C	Good growth
**Trichophyton mentagrophytes* ATCC® 9533	Aerobic, up to 72 h @ 25-30°C	Good growth
**Aspergillus niger* ATCC® 16404	Aerobic, up to 72 h @ 25-30°C	Inhibition (partial to complete)
Cryptococcus neoformans ATCC® 34877	Aerobic, up to 72 h @ 25-30°C	Inhibition (partial to complete)
**Escherichia coli* ATCC® 25922	Aerobic, up to 72 h @ 25-30°C	Inhibition (partial to complete)
Staphylococcus aureus ATCC® 25923	Aerobic, up to 72 h @ 25-30°C	Inhibition (partial to complete)

**CLSI recommended organism

LIMITATIONS
1. Cycloheximide may inhibit the growth of some potentially pathogenic fungi, e.g., *Cryptococcus neoformans*, some *Candida* spp., some *Aspergillus* spp., and *Zygomycetes*.[3]
2. The use of Shrink-Seals (REF R522600) or gas-permeable tape to secure the plates is recommended to prevent exogenous contamination, avoid moisture loss, and protect personnel from potential exposure to pathogenic molds.[3,4]

BIBLIOGRAPHY

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4. Isenberg, H.D. 2004. Clinical Microbiology Procedures Handbook. 2nd ed., Vol. 2. ASM Press, Washington, D.C.
5. Forbes, B.A., D.F. Sahm, and A.S. Weissfeld. 2007. Bailey and Scott's Diagnostic Microbiology. 12th ed. Mosby Elsevier, St. Louis, MO
6. Clinical and Laboratory Standards Institute (CLSI). 2004. Quality Control for Commercially Prepared Microbiological Culture Media; Approved Standard, 3rd ed. M22-A3. CLSI, Wayne, PA.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.

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