POTATO FLAKE AGAR w/ and w/o ANTIBIOTICS

INTENDED USE
Remel Potato Flake Agar w/ and w/o Antibiotics are solid media recommended for use in qualitative procedures for isolation of fungi from clinical specimens and as an aid in their identification.

SUMMARY AND EXPLANATION
Molds require microscopic evaluation of morphological structures for proper identification. Historically, the production of characteristic morphological features such as conidia was enhanced using Potato Dextrose Agar. In 1982, Rinaldi reported Potato Flake Agar promoted sporulation of molds, was easy to prepare, and was stable in storage.[1] Potato Flake Agar can also be used for stimulating sporulation in the slide culture technique as described by Riddell.[2]

PRINCIPLE
Potato flakes provide a nutritive base for luxuriant growth of fungi. Dextrose is a ready source of energy. These ingredients enable yeasts and molds to grow and produce morphological structures necessary for the identification of many pathogenic and opportunistic fungi.[3] The pH, adjusted to 5.6, enhances the growth of fungi and is inhibitory to bacteria. The medium may be made selective by the addition of antibiotics such as chloramphenicol, cycloheximide, ciprofloxacin, and vancomycin.

REAGENTS (CLASSICAL FORMULA)*

Potato Flakes	20.0 g	Agar	15.0 g
Dextrose	10.0 g	Demineralized Water	1000.0 ml

pH 5.6 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

The following combinations of optional ingredients are available per liter of medium:

1. Chloramphenicol	50.0 mg	2. Ciprofloxacin	100.0 mg
Cycloheximide	500.0 mg	Vancomycin	10.0 mg

PROCEDURE
1. For primary isolation, inoculate and streak the specimen as soon as possible after it is received in the laboratory. Selective and non-selective media should be inoculated to ensure recovery of microorganisms that may be inhibited on selective agar.
2. Incubate plates aerobically at 25-30°C for 30 days or longer before discarding as negative; examine weekly.
3. Potato Flake Agar used for identification purposes only should be inoculated from primary isolation medium.
4. Incubate aerobically at 25-30°C until sufficient sporulation is attained.
5. Proceed with microscopic examination following established laboratory procedures.

Pour Tube: Melt the agar deep in a boiling water bath and cool to 45-50°C. Mix and dispense into a sterile petri dish and proceed with the instructions above.

QUALITY CONTROL
All lot numbers of Potato Flake Agar w/ and w/o Antibiotics 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.[4] 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
Potato Flake Agar:		
**Candida albicans* ATCC® 10231	Aerobic, up to 72 h @ 25-30°C	Good growth
Cryptococcus neoformans ATCC® 34877	Aerobic, up to 72 h @ 25-30°C	Good growth
**Trichophyton mentagrophytes* ATCC® 9533	Aerobic, up to 72 h @ 25-30°C	Good growth
Potato Flake Agar w/ Chloramphenicol and Cycloheximide:		
**Candida albicans* ATCC® 10231	Aerobic, up to 72 h @ 25-30°C	Good growth
Cryptococcus neoformans ATCC® 34877	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 brasiliensis* ATCC® 16404	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)
Potato Flake Agar w/ Ciprofloxacin and Vancomycin:		
**Candida albicans* ATCC® 10231	Aerobic, up to 72 h @ 25-30°C	Good growth
Cryptococcus neoformans ATCC® 34877	Aerobic, up to 72 h @ 25-30°C	Good growth
**Trichophyton mentagrophytes* ATCC® 9533	Aerobic, up to 72 h @ 25-30°C	Good growth
**Escherichia coli* ATCC® 25922	Aerobic, up to 72 h @ 25-30°C	Inhibition (partial to complete)

*CLSI recommended organism

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BIBLIOGRAPHY

1. Rinaldi, M.G. 1982. J. Clin. Microbiol. 15:1159-1160.
2. Riddell, R.W. 1950. Mycologia. 42:265-270.
3. Murray, P.R., E.J. Baron, J.H. Jorgensen, M.L. Landry, and M.A. Pfaller. 2007. Manual of Clinical Microbiology. 9th ed. ASM Press, Washington, D.C.
4. 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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