

# ASCOSPORE AGAR

**PRODUCT:****Tube Media:**

Ascospore Agar, item no. T6150

**PURPOSE:**

Ascospore Agar is designed to stimulate the production of ascospores, the perfect stage of ascosporogeneous yeasts, such as *Saccharomyces cerevisiae*.

**PRINCIPLE:**

Ascospore production was first described by Adams<sup>1</sup> in 1949 using an acetate medium, and was later improved by studies of McClary et al.<sup>5</sup> Ascospore Agar is a synthetic enrichment medium that produces sporulation for the perfect stage of yeasts. All of the factors that affect sporulation are not clear, but it is known that potassium is required for sporulation. Acetate evidently supplies energy that can be oxidized through the aerobic respiratory mechanism. It is postulated that yeast extract increases the sporulation because yeasts need exogenous sources of nutrients in the sporulation phase. This medium makes it possible to aid in the identification of *Saccharomyces cerevisiae*.

**FORMULA:**

Approximate, per liter deionized filtered water.

Potassium Acetate .....	10.0 g
Yeast Extract .....	2.5
Dextrose .....	1.0
Agar .....	30.0
Final pH 6.5 ± 0.2 at 25°C	

**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:** Further testing may be required to establish identification. Information regarding biochemical and serological procedures may be found in standard reference texts.<sup>3,4</sup>

**PROCEDURE: \***

**Specimen Collection:** Not applicable since this medium is not for primary isolation. This medium is used in characterizing pure cultures. Isolated organisms, established isolation techniques, and tests for purity are necessary before inoculating this medium. Direct inoculation of specimens will produce erroneous results. Information on specimen collection may be found in standard reference texts.

**Method of Use:** Melt the agar in the tube, cool to 50°C, dispense into a sterile petri dish, and cool to room temperature. Plate the actively growing organism onto the plate surface and streak for isolation. Incubate at room temperature for three days, and then examine microscopically with a modified acid-fast stain. If the test is negative, reincubate and reexamine weekly for 3 weeks. At the end of this time, if the control is positive and the test shows no ascospores, the test may be considered negative.

**Interpretation:** After staining with a modified acid-fast stain, ascospores will appear as red, large, dark, thick-walled structures. A negative result is indicated by no red ascospore structures.

**Materials Required but Not Provided:** Standard microbiological supplies and equipment such as loops, needles, incubator, incinerator, and modified acid-fast stain, are not provided.

**QUALITY CONTROL: \*****Microorganisms Used (ATCC #):**

*Saccharomyces cerevisiae* (9763)  
*Candida albicans* (10231)

**Expected Results:**

(+)  
(-)

Key: See "Interpretation"

**User Quality Control:** Check for signs of contamination and deterioration.

**BIBLIOGRAPHY:**

1. Adams, A. M., *Can. J. Research*, 27C:179-189, 1949.
2. Adams, A. M., *Can. J. Research*, 28F:413-416, 1950.
3. Koneman, E. W., et al., *Color Atlas and Textbook of Microbiology*, 1st ed., J. B. Lippincott, Philadelphia, 1979.
4. Lennette, E. H., et al., *Manual of Clinical Microbiology*, 4th ed., American Society for Microbiology, Washington, D. C., 1985.
5. McClary, D. O., et al., *J. Bacteriol.*, 78:362, 1959.

\*For more detailed information, consult appropriate references and/or details in the preface of the PML Technical Manual.

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