

TML\MSH Microbiology Department Policy & Procedure Manual	Policy # MIMYC\10\05\v01	Page 1 of 2
Section: Mycology Bench Manual	Subject Title: Appendix V Germ Tube Test	
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APPENDIX V

GERM TUBE TEST

I. Introduction

This is a rapid test for the presumptive identification of *C. albicans*.

II. Reagents / Materials / Media

Bovine serum - A small volume to be used as a working solution may be stored at 2 to 8°C. Stock solution can be dispensed into small tubes and stored at -20°C.

Clean glass microscope slides
Glass coverslips
Glass tubes (13 x 100 mm)
Pasteur pipettes

III. Procedure

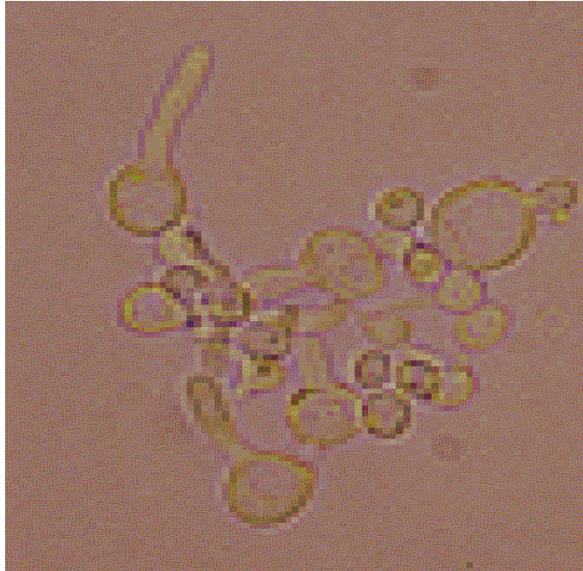
1. Put 3 drops of serum into a small glass tube.
2. Using a Pasteur pipette, touch a colony of yeast and gently emulsify it in the serum. The pipette can be left in the tube.
3. Incubate at 35⁰C to 37⁰C for up to 3 hours but no longer.
4. Transfer a drop of the serum to a slide for examination.
5. Coverslip and examine microscopically using x 40 objective.

IV. Interpretation

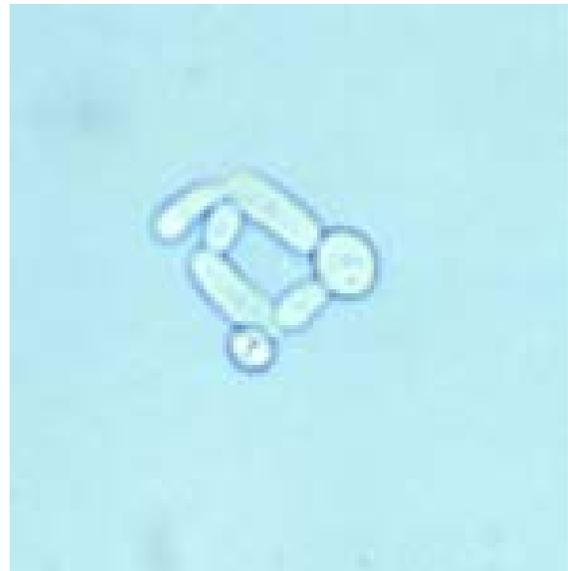
Germ tubes are appendages half the width and 3 to 4 times the length of the yeast cell from which they arise. There is no constriction between the yeast cell and the germination tube.

Positive test: presence of short lateral filaments (germ tubes) one piece structure
Negative test: yeast cells only (or with pseudohyphae) always two pieces

TML\MSH Microbiology Department Policy & Procedure Manual	Policy # MI\MYC\10\05\v01	Page 2 of 2
Respiratory Tract Culture Manual		



Positive Germ Tube
(Parallel sides; Non-septate)



Negative Germ Tube
(Constriction at point of attachment)

Note: *C. tropicalis* may form pseudohyphae (usually after 3 hours incubation) which may be falsely interpreted as germ tube positive.

IV. Quality Control

Set up known controls daily:

- C. albicans*: positive
- C. tropicalis*: negative

V. References

1. Haley LD and Callaway CS, Laboratory Methods in Medical Mycology, CDC Publication No. 79-8361, 1979. p119.