

7th LAB.: Fungal Staining

140 MIC
1437 – 2015

Fungal Colonies

Fungi, yeasts and molds are widespread throughout the environment. For healthy persons they are not a serious problem as long as certain standards of hygiene are maintained.

If the **immune system** is **compromised**, however, through **chronic illness or tumor**, they may pose an infection risk or result in manifest illness.

They can, for instance, **infect** the nails, hair, skin, lungs, kidneys or lymph nodes.

Detection of Fungi

- Detecting fungi is essential to institute targeted remedy.
- Detection of fungi with various stains is quick and simple, and can be optimized through the use of ready-to-use solutions.
- Depending on the consistency of the specimen material, it may be necessary to perform a simple pre-treatment step with alkali prior to staining.

For example, Lactophenol (Cotton) blue stain:

Use of a ready-to-use lactophenol blue solution enables the specimen to be stained in a single step.

The fungi are stained **dark blue** and stand out well against the **light blue background**.

Materials:

- 1- Fresh Pure Fungi Agar Culture such as; Aspergillus, Penicillium, Rhizopus, Saccharomyces (Yeast), Fusarium, and Alternaria).
- 2- Inoculating Needle.
- 3- Forceps.
- 4- Alcohol 70% - Dettol- Cotton- Bunsen Burner.
- 5- Lactophenol cotton blue Stain.
- 6- Microscopic Slides, Light Compound Microscope.
- 7- Alcohol pads.

Methods:

- 1- Under aseptic conditions, label the needed clean slides.
- 2- Add a drop of the lactophenol cotton blue on the slide .
- 3- By a sterile needle and a sterile forceps, transfer a part of the mycelium (along with its sporangium or spores) to the surface of the slide and mix it together with the stain drop.
- 4- Press a cover on the top of the sample.
- 5- Examine the prepared slide under the microscope using the lower power (4x – 10x) then high power 40x.
- 6- Try to determine the type of mycelium (Septation and Branching) and the type of spores.
- 7- Draw a sketch of the microscopic field that identify your sample.

Examples of results:

