**Confocal Objectives List:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name | Magnification | NA | WD  (mm) | Coverslip #1.5  (mm) | Immersion  Medium | Location |
| Plan apochromat | 5x | 0.16 | 12.1 | 0.17 | Dry | LSM 780 |
| Plan apochromat | 10x | 0.3 | 2 | 0.17 | Dry | LSM 510  LSM 780 |
| Plan apochromat | 20x | 0.8 | 0.55 | 0.17 | Dry | LSM 510  LSM 780 |
| EC Plan Neofluar | 40x | 0.75 | 0.71 | 0.17 | Dry | LSM 780 |
| C achroplan LD | 40x | 0.8 | > 1.75 | 0.17 | Water | LSM 510 |
| C apochromat | 40x | 1.2 | ­~ 0.28 | 0.14-0.19 | Water | LSM 510  LSM 780 |
| C apochromat | 63x | 1.2 | ­~ 0.28 | 0.14-0.19 | Water | LSM 510  LSM 780 |
| Pan apochromat | 63x | 1.46 | ~ 0.1 | 0.15-0.19 | Oil | LSM 780 |

NA: Numerical Aperture

WD: Working Distance

**Important notes on objectives and objective care:**

* All objectives in the facility are corrected for coverslips of mean thickness 0.17 mm (sometimes a range is given, such as 0.14-0.19 mm, when the objective is equipped with a correction collar). ONLY coverslips of the right thickness (marked as NUMBER 1.5) should be used. The use of the wrong size coverslips will lead to a decrease in the image intensity and resolution.
* Slide mounted Samples should be mounted between a slide and a coverslip, NOT between two coverslips. Although such mountings can be done, they should be avoided. If you do require such mounting, please seek the advice of LiMiF. Such mounting will be very fragile, and broken coverslips can scratch the front lens of an objective.
* Objectives should not be removed from the microscopes, or moved from one microscope to another. If you need an objective which is no available on a given system, please contact LiMiF.
* Always defocus manually before changing objectives (spinning the turret). Remember that a higher NA objective has a shorter working distance and that the objective front lens could get damage.
* Always defocus if the stage needs to travel a long distance. Coverslips are usually not strictly perpendicular to the objective due to the sample mounting, and friction between the objective front lens and the coverslip may lead to objective damage.
* Always image clean samples, free of mounting medium or any other undesirable product on the coverslip. Failure to do this, will lead to optical aberrations and possible contamination of the objective.
* For Immersion objectives:
  + Always use the correct immersion medium (provided by LiMiF)
    - Air objectives: nothing
    - Water objectives: Water or the non-evaporating “magic Water” provided by LiMiF
    - Oil objectives: the oil provided by LiMiF
  + Only put a small drop of immersion medium on the objective. The smallest quantity will give you the best results and will prevent damages (flooding) to the objective
  + Always clean the objective before changing your sample. This will avoid collecting impurities in the immersion medium and have too much medium on the lens.

**IF IN DOUBTS ABOUT OBJECTIVES, PLEASE CONTACT LiMiF**