

Microscope 5

Room: E1035

Inverted manual microscope (Leica DM IRB) dedicated to bright field, phase contrast (from 10x to 63x), LMC and fluorescence imaging of living or fixed samples. Equipped with a Photometrics CoolSnap CF Color camera. **NOT suitable for near infrared emitting fluorochromes.**

| Illumination | Wavelength range (nm) | Contrast methods |
|-------------------|-----------------------|------------------------------------------|
| Arc lamp 120W | UV - IR | Fluorescence |
| Halogen lamp 100W | White | Bright field, Phase contrast, Dark field |

| Fluorescence cubes : small | Excitation (nm) | Beam-splitter(nm) | Emission (nm) | Application |
|--------------------------------------------------|-------------------------------------|-------------------|-------------------------------------|----------------------------------------------|
| A4 | BP 360/40 | 400 | BP 470/40 | DAPI, Hoechst |
| L5 | BP 480/40 | 505 | BP 527/30 | FITC, Alexa488, GFP |
| Y3 | BP 545/40 | 565 | BP 610/75 | Cy3, Alexa555 |
| On demand : | | | | |
| A | BP 360/20 | 400 | LP 425 | DAPI, Hoechst |
| B/G/R | BP 420/30 BP 495/15 BP 570/20 | 415 510 590 | BP 465/20 BP 530/30 BP 640/40 | DAPI or AMCA FITC and Texas Red |
| BFP/GFP | BP 385/15 BP 485/20 | 420 510 | BP 460/20 BP 437/45 | BFP and GFP |
| CFP | BP 436/20 | 455 | BP 480/40 | CFP |
| CFP/YFP | BP 436/12 BP 500/20 | 445 515 | BP 467/37 BP 545/45 | CFP and YFP |
| CFP/YFP/DsRed Not found in Leica data base | BP 436/12 BP 500/20 | 445 515 | BP 467/37 BP 545/45 | CFP YFP and DsRed |
| GFP | BP 470/40 | 500 | BP 525/50 | GFP |
| YFP | BP 500/20 | 515 | BP 535/30 | YFP |
| Red GFP | Not available | Not available | Not available | RFP, DsRed |
| Ds Red (ET) | BP 546/11 | 560 | BP 605/75 | DsRed, Ethidium bromide, Propidium iodide |
| N2.1 | BP 515 - 560 | 580 | LP 590 | Alexa594, TRITC, Rhodamin B |
| TX2 | BP 560/40 | 595 | BP 645/75 | Alexa 568, Alexa 894, Texas Red |
| Y5 | BP 620/60 | 660 | BP 700/75 | Cy5 |
| I3 | BP 450 - 490 | 510 | LP 515 | FITC, GFP, Alexa 488, ... |

| Default objectives | Magnification | Numerical Aperture | Working Distance (mm) | Immersion Medium | Coverslip |
|-----------------------|---------------|--------------------|-----------------------|------------------|-----------|
| N PLAN 2.5x/0.07 | 2.5x | 0.07 | 11.2 | Air | - |
| HC PL FLUOTAR 5x/0.15 | 5x | 0.15 | 12.0 | Air | - |

| | | | | | |
|--------------------------------|-----|------|---------|-----|---------|
| N PLAN 10x/0.25 PH1 | 10x | 0.25 | 17.6 | Air | - |
| N PLAN L 20x/0.40 CORR PH1 | 20x | 0.40 | 3.2-1.9 | Air | 0-2 |
| N PLAN L 40x/0.55 CORR PH2 | 40x | 0.55 | 3.3-1.9 | Air | 0-2 |
| On demand : | | | | | |
| PL FLUOTAR L 63x/0.70 CORR PH2 | 63x | 0.70 | 2.6-1.8 | Air | 0.1-1.3 |
| C PLAN 10x/0.22 LMC | 10x | 0.25 | 7.8 | Air | - |
| N PLAN L 20x/0.40 CORR LMC | 20x | 0.40 | 3.2-1.9 | Air | 0-2 |
| N PLAN L 40x/0.55 CORR LMC | 40x | 0.55 | 3.3-1.9 | Air | 0-2 |
| PL FLUOTAR L 63x/0.70 COOR LMC | 63x | 0.70 | 2.6-1.8 | Air | 0.1-1.3 |

| | |
|----------------------------------------|-----------------------------------|
| Default additional magnifier - reducer | 0.5x |
| On demand : | 0.33x, 0.63x, ... disparus |

| | |
|-------|------|
| Zoom | None |
| Range | - |

| | |
|------------------------------------------------|-------------------------------------------|
| Default Camera | CoolSNAP CF Color (Photometrics) |
| Digitizer | 12-bit |
| Resolution | 1392 x 1040 pixels |
| Pixel size | 4.65 x 4.65 μ m |
| Particularity | IR blocking window (700 nm cutoff) |
| Wavelength-range with Quantum Efficiency > 15% | 350-700 nm |
| Image type | RGB |

| Acquisition Softwares | Hardware control | Suitable cameras | Particularities | Binning |
|------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---------|
| CoolSnap | No | Photometrics Color-mosaic cameras | 24-bit or 48-bit RGB Tiff | No |
| RSImage | No | Photometrics Monochrome and Color-mosaic cameras (bugs) | | Yes |
| Micro-Manager Needs a monochrome camera for multi- channel fluorescence acquisition. | Yes (no hardware to be controlled) | Wide choice of monochrome cameras | Multi Dimensional Acquisition (here limited to manual multi-channel acquisition) | 2, 4, 8 |

| | |
|--------------------------------------------------|--|
| Visualization, analyzis and processing softwares | |
| IrfanView | |
| ImageJ | |
| Fiji | |

| | |
|------------------|-----------------------------------------------------------|
| Operating system | Windows 7 32-bit |
| CPU | 2x AMD Athlon 64x2 Dual Core Processor 3800+ |
| RAM | 2 GB |
| Graphic Card | 128MB ATI Radeon X3100 + 128MB ATI Radeon X3100 Secondary |

