

### Microscope 3

Room: E1035

Upright motorized microscope (Leica DM 4000 B) dedicated to bright field, dark field and fluorescence imaging of fixed samples. Equipped with a CoolSnap FX monochrome camera (Photometrics) 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	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, Alexa 488, GFP
Y3	BP 545/40	565	BP 610/75	Cy3, Alexa 555
TX2	BP 560/40	595	BP 645/75	Alexa 568, Alexa 894, Texas Red
On demand :				
D	BP 355 - 425	455	LP 470	Hoechst, Cascade Blue and many others
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
GFP	BP 470/40	500	BP 525/50	GFP
YFP	BP 500/20	515	BP 535/30	YFP
Ds Red	NA	NA	NA	RFP
N2.1	BP 515 - 560	580	LP 590	Alexa594, TRITC, Rhodamin B
Y5	BP 620/60	660	BP 700/75	Cy5
Qdot 655	NA	NA	NA	Qdot 655
I3	BP 450 - 490	510	LP 515	FITC, GFP, Alexa 488, ...

Default objectives	Magnification	N.A.	Working Distance (mm)	Immersion Medium	Coverslip
N PLAN 5x/0.12	5x	0.12	11.7	Air	-
HN PLAN 10x/0.25	10x	0.25	17.6	Air	-
HC PLAN APO 20x/0.70	20x	0.50	0.59	Air	0.17
HCX PLAN APO 40x/0.75 PH2	40x	0.75	0.4 ?	Air	0.17
HCX PL APO 63x/1.32-0.6 OIL	63x	1.32	0.1 ?	Oil	0.17
PL FLUOTAR 100x/1.30-0.6 OIL	100x	1.30	0.13 ?	Oil	0.17
<b>Working distances with a "?" are not sure (taken from nearest objective found in Leica data base)</b>					
Special wishes :	Contact us				

Default additional magnifier/reducer	None
On demand :	0.5x, 0.63x, ...

Zoom	Leica Vario-TV
Range	0.55x – 1.1x

Default Camera	CoolSNAP FX Monochrome (Photometrics)
Digitizer	12 bit
Resolution	1300 x 1030 pixels
Pixel size	6.7 x 6.7 $\mu\text{m}$
Binning	1, 2, 4
Wavelength range above 20% Q.E.	320-700 nm
CCD temperature	-30°C (regulated)
Image type	16-bit monochrome

Acquisition Softwares	Microscope control	Suitable cameras	Binning
CoolSnap	No	Photometrics Color-mosaic cameras	No
RSImage	No	Photometrics Monochrome and Color-mosaic cameras (bugs)	Yes
Micro-Manager : Needs a monochrome camera for multi-channel fluorescence acquisition.	Filter wheel, shutters, Condenser, Condenser wheel, Transmission lamp	Wide choice of Monochrome cameras; Automated Multi Dimensional Acquisition	1, 2, 4, 8

Visualization, analyzis and processing softwares	IrfanView, ImageJ, Fiji
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Operating system	Windows 7 32-bit
CPU	2x AMD Athlon 64x2 Dual Core Processor 3800+
RAM	4 GB
Graphic Card	128MB ATI Radeon X3100 + 128MB ATI Radeon X3100 Secondary