

## Confocal 7 - SP5 system (August 2020)

### Technical Specifications

- Leica SP5-II confocal laser scanning microscope attached to a Leica DMI 6000 inverted epifluorescence microscope.
- Spectrophotometers allow customised detection of emitted light, spectral scanning etc.
- Equipped with 50mW 405nm laser, 150 mW Ar laser (458, 476, 488, 514 nm lines), 20mW solid state yellow laser (561nm), 20 mW Red He/Ne (633 nm) diode laser.
- AOTFs for all laser lines allow rapid attenuation, ROI scanning and localised photo-bleaching.
- AOBS (Acousto-Optical Beam Splitter) automatically adjusts to selectively reflect each excitation line and allows optimisation of detection close to (and overlapping) excitation lines.
- Suitable for a wide range of blue, green, red and far-red fluorophores.
- Leica software includes 'wizards' for FRAP, FRET etc.
- Matrix screener software for flexible, automated imaging of multi-well plates.
- Live data mode for more programmatic acquisition
- Three PMT detection channels for fluorescence/reflectance.
- Transmitted light detector for brightfield & phase contrast with some lenses.
- Incubator for temperature and CO<sub>2</sub> control.
- Z-Galvo for faster and more accurate focusing and enables "galvo flow" acquisition.
- Märzhäuser scanning stage - enables multi-position image acquisition.

### Filters for visual inspection

Cube	Excitation range	Fluorophore (examples)	Excitation filter	Dichroic mirror	Emission filter
I3	Blue	FITC GFP	BP 450-490	RKP 510	LP 515
N2.1	Green	Rhodamine TRITC	BP 515-560	RKP 580	LP 590
A	UV	DAPI AMCA	BP 340-380	RKP 400	LP 425

### Lenses

Lens	Dry/Oil	Phase contrast	DIC	Working distance (mm)	Numerical aperture	Features	Serial number	Image size at 1x zoom in microns
10x HCX PL Fluotar	Dry	Yes	No	2.2	0.4		506285	1550
20x HCX PL APO	Dry	No	No	0.59	0.7		506191	775
40x HCX PL APO CS	Oil	Yes	No	0.1	1.25		506252	387.5
63x HCX PL APO CS	Oil	No	No	0.1	1.4	Iris diaphragm	506188	246
63x HCX PL APO CS uv	Glycerol	No	No	0.28	1.3	Coverglass thickness correction	506193	246
100x HCX PL APO	Oil	Yes	No	0.09	1.4		506210	155