IGTP Microscopy Platform

Zeiss Axio Observer Z1 widefield microscope specifications

The system is built on the XYZ motorized Zeiss Axio Observer Z1 inverted microscope body for widefield brightfield/epifluorescence imaging. It is equipped with the following objectives and epifluorescence filters:

Objectives

Magnification	Numerical Aperture (NA)	IMM	Working Distance (mm)	Cover glass (CG) thickness (mm)	Aberration Correction	Contrast technique
5X	0.16	DRY	18.5	0.17	Plan-Neofluar	-
10X	0.3	DRY	5.6	0.17	Plan-Neofluar	Ph1
20X	0.4	DRY	8.4 @ 0 CG, 7.4 @ 1.5 CG	0 - 1.5	LD Plan-Neofluar/Corr	Ph2
40X	0.6	DRY	3.3 @ 0 CG, 2.5 @ 1.5 CG	0 - 1.5	LD Plan-Neofluar/Corr	Ph2
40X	1.3	OIL	0.21	0.17	Plan-Apochromat	DIC
63X	1.4	OIL	0.19	0.17	Plan-Apochromat	DIC

Ph – Phase Contrast, DIC – Differential Interference Contrast

Epifluorescence Filters

Filter Set	Excitation filter	Dichroic mirror	Emission filter	Example fluorophores
Set 1	BP 365/12	FT 395	LP 397	DAPI, Hoechst
Set 38 HE	BP 470/40	FT 495	BP 525/50	AF488, eGFP, mNeonGreen
Set 20	BP 546/12	FT 560	BP 575-640	AF568, Cy3, mCherry

BP – Bandpass filter, *FT* – Farbteiler (*dichroic beamsplitter*), LP – Longpass filter

Detectors

This system is equipped with Zeiss AxioCam MRm 1.4MP monochrome CCD camera & Zeiss AxioCam MRc 5MP colour CCD camera.

Environmental Control for live cell imaging

This system is equipped with a full box enclosure and can be operated with the temperature and CO_2 control. Pecon heating inserts for 24-well plates, Petri dishes or microscope slides are also available.

Software

The system is controlled via Zeiss ZEN Blue 2012