

Operetta High Content Screening (School of Biomedical Sciences)



BIOLOGICAL
OPTICAL
MICROSCOPY
PLATFORM

INSTRUMENT SPECIFICATION SHEET

Location	W510, Cell Signaling Centre, Medical Building							
Stand	Operetta™							
Illumination	Transmitted				Fluorescence			
	740nm LED				XL3000 (300W Xenon lamp 350 – 680nm)			
Excitation filters								
Name	Excitation	Dichroic		Applicable fluorophore				
380/40	360-400	405	UV	DAPI, Hoechst, BFP				
420/20	410-430	435	Blue	CFP, Cerulean				
475/30	460-490	495	Green	GFP, FITC, AF488				
500/20	490-510	515	Yellow	YFP, AF532				
535/30	520-550	555	Orange	Cy3, TRITC, Rhodamine				
570/20	560-580	585	Orange	AF568, AF594, Texas Red, MitoTracker Red				
615/30	600-630	635	Red	AF633, CellMask Red				
630/20	620-640	645	Far Red	AF647, Cy5, DRAQ5, CellMask Deep Red				
Emission filters								
Emission	Applicable fluorophore			Emission	Applicable fluorophore			
410-480	DAPI, Hoechst, BFP			640-680	Cy5, APC, AF 633			
460-500	CFP			650-700	APC, AF 647			
500-550	GFP, FITC, AF488			650-760	Cy5.5, AF680, AF700			
530-590	Cy3, TRITC, Rhodamine			(460-540)	Cy2, Fura-2			
560-630	MitoTracker Red, mCherry,			(590-640)	MitoTracker Red, mCherry			
Objectives	Type	NA	Working distance	Field of View(μm²)	Plate thickness (mm)	Depth of focus (μm)	Resolution(μm)	Plane distance (μm)
2x (LWD) HH12000511	Air	0.08	6.2 mm	6754 x 5086	0.11 - 4	145.5	3.75	66
10x (LWD) HH12000502	Air	0.30	10.0 mm	1351 x 1017	0.11 - 4	10.3	1.10	4.7
20x (LWD) HH12000505	Air	0.45	7.80 mm	675 x 509	0.11 – 2 Correction collar	4.6	0.67	2.1
20x (High NA) HH12000504	Air	0.75	0.71 mm	675 x 509	0.11 – 0.23	1.7	0.42	0.8
40x (High NA) HH12000507	Air	0.95	0.29 mm	338 x 254	0.11 – 0.23 Correction collar	1.0	0.32	0.5
Detectors	#		Type	Details				
	1		CCD camera	14-bit, 1.3 M pixel, Peltier-cooled				
Software	Harmony 4.1							
Holder	Microtitre plate and slide holders							
Application	Live cell imaging with temperature & CO ₂ control							
File Saving	External USB							
Extra features	SN1215							