

3i Marianas Spinning Disk Confocal

3i Marianas (Denver, CO) spinning disk confocal microscope equipped with Yokogawa W1 module and Prime 95B sCMOS camera.

Microscope:

Zeiss Axio-Observer 7 inverted microscope

Spinning Disk:

Yokogawa CSU-W1 T1 Spinning Disk Confocal. 50µm pinhole size.

Objectives:

10x Zeiss Plan-Neufluar dry, 0.3 NA
20x Zeiss Plan-Apochromat dry, 0.8 NA, DIC
63x Zeiss Plan-Apochromat oil, 1.4 NA, DIC
100x Zeiss Plan-Apochromat oil, 1.4 NA, DIC

Laser Lines:

405nm: Solid State, 100mW
488nm: Solid State, 150mW
561nm: Solid State, 150mW
637nm: Solid State, 140mW

Emission Filters:

445/45 Blue Dyes (DAPI, Alexa Fluor 405)
525/30 Green Dyes (GFP, FITC, Alexa Fluor 488)
617/73 Red Dyes (Alexa Fluor 568, Cy3, mCherry)
692/40 Far Red Dyes (APC, Alexa Fluor 647)
Quad 440/521/607/700-25 (fast confocal filter)

Camera:

Prime 95BTM Back Illuminated Scientific CMOS
1200x1200 pixels, back thinned sCMOS, 11x11µm square pixels, @18.7mm field of view, 95% quantum efficiency, 16-bit data@41fps / 12-bit, data@82fps, read noise 1.6e-, air cooled to -20C.

Incubator:

OKO Lab Full enclosure incubator with digital temperature, manual CO₂, and passive humidity control. Compatible with 35 mm dishes, Labtek chambers, regular slides, and most custom devices

Photomanipulation:

Vector2 VIS High-Speed Point Scanner. Laser-based point scanner for photomanipulation techniques including FRAP, photoactivation, uncaging and photoablation.