

Prairie Ultima 2

Location: HSC Room 48B / 48D

Main features of Prairie Ultima 2/Multi-Photon Confocal System:

- Six detectors, four reflected mode Photo Multipliers Tube (PMT) detectors and two transmitted mode PMTs for second harmonic and fluorescence detection.
- High NA water immersion optics including 16x PLANAPO LWD Nikon NA 0.8 and a PLANAPO Correction collar LWD 25x NA 1.1, 60x LUMFL water immersion Olympus NA0.8.
- Resonance scanner for high speed imaging timelapse (~200fps depending on format)
- Piezo Z drive for fast z acquisition, 2 inch travel, XY motorized stage
- Fixed (Z) stage with adjustable (2 inch) travel
- Bioscience Tools stage top incubator with heated pad, heated dish
- Mouse Anesthesia system from VetEquip for in vivo applications (Halothane with scrubber)
- Gas supply, O₂, CO₂, O₂/CO₂ mix

Imaging lasers:

- Coherent Vision II with tuning 705-1060nm pulsed femtosecond range 4000-400mW depending on wavelength

Suggested Applications:

- Deep live cell imaging of zebrafish, mouse in vivo, organ culture and slices, 3D cell culture
- Multichannel fluorescence in vivo, slices or cultures
- Tiling mosaics of fixed or live samples
- Timelapse of whole mount, in vivo mouse, culture
- Second harmonic imaging of collagen or other ECM

Objectives:

48B:

| Objective | Magnification | Immersion | Numerical Aperture | Correction Collar | Coverslip (mm) | Working Distance (mm) |
|-----------|---------------|----------------------|--------------------|-------------------|----------------|-----------------------|
| Apo | 25 | Water, Water Dipping | 1.1 | Corr | 0-0.17 | 2 |

48D:

| Objective | Magnification | Immersion | Numerical Aperture | Correction Collar | Coverslip (mm) | Working Distance (mm) |
|-----------------|---------------|----------------------|--------------------|-------------------|----------------|-----------------------|
| Plan Apo Lambda | 4 | Air | 0.2 | | | 20 |
| Plan Fluor | 10 | Air | 0.3 | | 0.17 | 16 |
| UPlanFI | 10 | Air | 0.3 | | | |
| LWD | 16 | Water Dipping | 0.8 | | 0 | 3 |
| Apo | 25 | Water, Water Dipping | 1.1 | Corr | 0-0.17 | 2 |
| Fluor | 40 | Water Dipping | 0.8 | | 0 | 2 |

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