EQUIPMENT

The Palmer lab has access to all of the equipment needed to perform the work proposed, most of which is present in the lab, the BioFrontiers Advanced Light Microscopy Core, and the Cell Culture Facility (both of which are across the hall from the lab).

- Synthesis
    1. 2 chemical fume hoods, 1 equipped with a vacuum line for airfree synthesis
    2. Mettler electronic analytical balances
    3. Rotary Evaporators
    4. LabAlliance high-performance liquid chromatography (HPLC) solvent delivery system equipped with a Rainin UV-1 detector (located in the lab of Zhongping Tan)
    5. Applied Biosystems Pioneer continuous flow peptide synthesizer (located in the lab of Zhongping Tan)
- Imaging
    1. Nikon Ti-Eclipse Inverted Fluorescence Microscope with a iXon3 CCD camera (Andor) and a Dual view camera (DV2, Andor) for FRET imaging
    2. Nikon A1R Laser Scanning Confocal and TIRF Inverted Microscope with iXon X3 EMCCD
    3. Molecular Devices ImageXpress Micro XL System for high throughput-high content fluorescence microscopy
    4. Olympus IX-81 Inverted Microscope
    5. Nikon N-STORM and TIRF inverted microscopes for super-resolution microscopy with three cameras (2x Andor Ixon Ultra 897 EMCCD, 1x Hamamatsu ORCA Flash4.0 sCMOS)
    6. Nikon Spinning Disc Confocal Microscope
    7. An image analysis workstation with software: MatLab, Imaris, Nikon Elements, ImageJ/Fiji, ICY, and Cell Profiler
- Cell Culture
    1. Biosafety cabinets for mammalian cell work
    2. BSL-2-certified biosafety cabinet for lentiviral work
    3. Centrifuge and ultracentrifuge
    4. CO_2 cell culture incubator
    5. Refrigerators and freezers (4, -20, and -80 °C)
    6. Table top fluorescence microscope
    7. FACSAria III cell sorter (BD Biosciences)
- Molecular Cloning
    1. Molecular biology-grade water system
    2. Cold room (4 °C)
    3. Temperature-controlled incubating shakers
    4. Protein and DNA gel electrophoresis and Western blotting equipment
    5. heating blocks
    6. 37 °C incubator
    7. PCR thermocyclers

See document “Facilities & Other Resources” for shared equipment within the BioFrontiers Institute.