

FV3000 Hybrid Scanner with Abbelight TIRF and SuperResolution

The Dept. of Neuroscience has acquired a new instrument! This instrument is a Hybrid Laser Confocal Microscope with the Abbelight 180 3D dStorm TIRF module.

The FV3000 is a true spectral confocal system with 405, 488, 561, 640 laser excitation. Two Cooled GaAsP PMT detectors allow the simultaneous imaging of two laser channels and a transmitted light channel at the same time. The confocal is capable of resonance scanning at high speeds! It also has a Trusight Deconvolution Module. The optics are all Apo corrected and include a 4X, 10X, 20X, 40X oil NA 1.4, 60X oil High Resolution TIRF Oil Objective NA 1.50, and a 100X Oil High Resolution TIRF objective N.A. 1.5. All the included optics have Nomarski components to aid in the location of structures without submitting the sample to fluorescence excitation. This microscope has a motorized stage and excellent stitching capabilities. It also has an excellent array of stage top incubation chambers to aid in live cell imaging. There is a TruFocus Z Drift Compensation module that will maintain focus for time lapse experiments.

An Abbelight 180 SAFE dSTORM TIRF module is connected to the left side imaging port of this microscope further expanding the capabilities to allow it to image with Super Resolution technology.

Single-molecule localization precision down to 10 nm × 10 nm × 15 nm (X×Y×Z)
Nearly 10 times higher resolution than with standard confocal systems
Large field of view of up to 150 x 150 μm at 100x

The system also has single color TIRF capabilities!

Olympus and Abbelight will be at Scripps Research Institute to train user groups