



TIRF Technologies

Sensing Biomolecular Interactions

Total Internal Reflection Fluorescence Microscopy



Multicolor TIRFM flow systems compatible with LED, Hg-, Xe-arc lamps, and laser illuminators

IgTIRFM compatible with dry, water and oil immersion objectives 2X - 100X

Highly reproducible wide-field evanescent wave approximately 1 cm X 1 cm

Optional electrochemical, electric field, and dielectrophoretic control

Optional computer-controlled fluidics

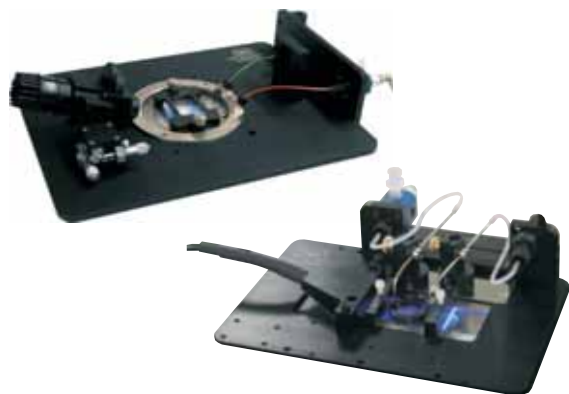
Optional low light EM CCD cameras

Lightguide-and Prism-based TIRF Microscopy

TIRF Technologies offers lightguide- and prism-based TIRF Microscopy flow systems (IgTIRFM) equipped with open perfusion chambers and closed flow cells. The advantages of IgTIRFM, with respect to through-objective TIRFM, include superior signal-to-noise ratio, reproducibility of intensity of the evanescent wave between experiments, and compatibility of IgTIRFM with different objectives and illuminators. Oil and water immersion lenses as well as dry objectives can be used with IgTIRFM systems. For example, the same specimen can be imaged in TIRF mode with a 100X oil immersion lens and dry 2X objective to obtain a panoramic view. IgTIRFM generates wide-field (approx 1cm X 1cm) evanescent wave useful for single molecule detection studies, microarray experiments, as well as for TIRF imaging of a group of interacting mammalian cells. IgTIRFM is compatible with inexpensive LED, halogen, xenon-, and mercury-arc lamps, and can also be used with lasers. This allows for excitation of a full spectrum of fluorophores, as opposed to the limited selection matched to lasers. IgTIRFM is ideally suited to studies of surface based molecular-cellular and molecular-molecular interactions. Such studies include single molecule detection, endo- and exocytosis, membrane trafficking, ion-channel applications, protein-protein interactions, interfacial DNA hybridization, etc. Optional modules for IgTIRFM include: electrochemical, electric field and dielectrophoretic control, computer-controlled fluidics, and low light EM CDD cameras. Modular design of hardware and software enables different configurations of TIRFM systems (from manual to fully automated) that suit wide range of research tasks.

Supported Microscopes:

Nikon
Olympus
Zeiss
Leica



Single Molecule Detection and Manipulation

TIRF Technologies, Inc. - <http://www.TIRFTechnologies.com> - info@tirftechnologies.com

Phone: 919-463-9550 - Fax: 919-463-9574 - 951 Aviation Pkwy #700, Morrisville, NC 27560