Datasheet

OptoTIRF V2

Motorised TIRF and widefield illumination

OPTOTIRF V2 Affordable Motorised Total Internal Reflection Fluorescence and Widefield IlluminationThe OptoTIRF V2 is a compact and powerful, yet inexpensive, stepper-motor-controlled TIRF illuminator designed to fit onto any research-grade inverted microscope. It allows a single or multimode laser spot to be focussed anywhere in the back-aperture of an objective lens with joystick or software control, and simple storage and recall of preset positions via digital or COM interface. This makes it suitable for acquisition protocols involving TIRF and / or oblique illumination at a range of penetrations depths and wavelengths. Although it lacks the fast scanning functionality of the Gataca iLAS (which we are also proud to distribute), the 360 degree stepper-motor-control does allow the user to illuminate from multiple points during an experiment, making it straightforward to tweak the illumination to the sample and minimise fringes or shading gradients. Field uniformity is further enhanced by a dither function that helps to avoid the artefacts associated with point TIRF. Flexibility is enhanced by a motorised bypass port, for widefield illumination using LEDs or a liquid light guide, or, for the addition of a second TIRF module for truly simultaneous dual-colour imaging.

Applications

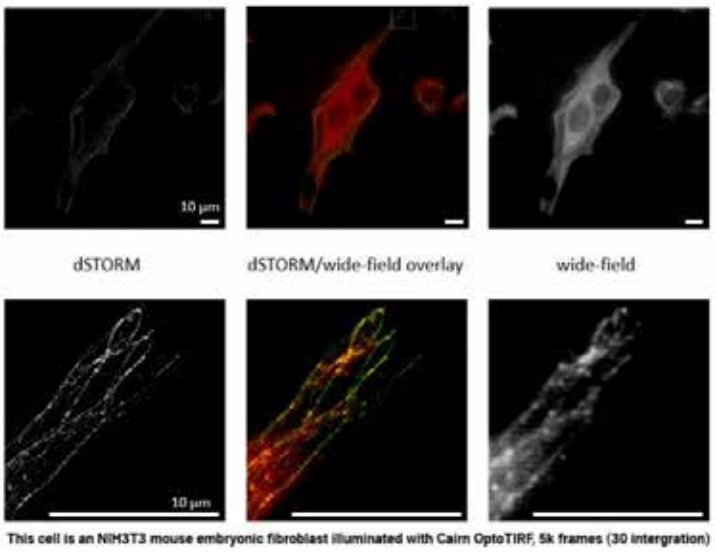
- Single molecule localisation & tracking
- Kinetic studies of single molecule interactions (i.e. ligand binding,
- protein: protein and protein: DNA interactions)
- Kinetic studies of proteins (i.e. actin filaments & microtubules)
- Super-resolution techniques (i.e. PALM/STORM) for subdiffraction localisation of single molecules
- Low-cost, open source EasySTORM

Top Advantages

- Affordable upgrade for existing frames or laser sources
- Accommodates singlemode or (small) multimode fibre input for use with Cairn or third-party laser sources

Key Features

- Compact modular system for easy integration with other modalities onto any inverted microscope base
- Motorised movement of illumination spot for optimised point TIRF oblique illumination
- Joystick or software control –simple COM commands or digital control will work with any imaging software
- Motorised widefield bypass mode
- Integrated variable field stop with X_Y alignment
- Simple optical path suitable for adaptation for custom requirements
- Modular collimator allows quick and easy optimisation for field flatness or power density



This cell is an NIH3T3 mouse embryonic fibroblast illuminated with Cairn OptoTIRF, 5k frames (30 intergration)

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