



## Total Internal Reflection Fluorescence Accessory for Hitachi Fluorescence Spectrophotometer F-7000



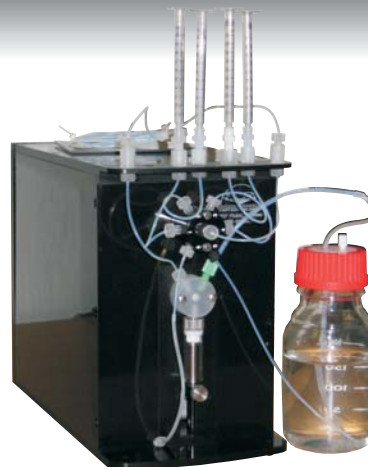
### TIRF Flow System Accessory TA1004 for Hitachi Fluorescence Spectrophotometer F-7000

TIRF Labs offers TIRF Flow System TA1004 as an accessory assembled on standard sample compartment insert of Hitachi fluorometer F-7000. TIRF is supplied as factory aligned accessory; it takes no time to install/uninstall TIRF system. TIRF employs the phenomena of total internal reflection and evanescent wave. The evanescent wave penetrates to submicron distance from the surface and excites fluorophores that are located at the surface and in close proximity (~100-200 nm) to the surface. TIRF does not excite the bulk of solution and efficiently rejects the background, which allows for super-sensitive detection - down to single molecules. No other technique exists that can monitor fluorescence lifetime, polarization, anisotropy decay, quenching, resonance energy transfer (FRET), recovery after photobleaching (FRAP), and correlation spectroscopy (FCS) in real-time and with limit of detection at the level of single molecules. TIRF flow system can be driven by gravity flow, which is always by hand, or can be interfaced with digital fluidics SmartFlow that transforms your fluorometer to a computer-controlled TIRF biosensor. Electrochemical, dielectrophoresis and temperature control are available as options. Chemically modified TIRF slides with reactive amine, aldehyde, epoxy groups, biotinylated streptavidin and poly-L-lysine-coated TIRF slides, and reagent kits for surface immobilization of biomolecules are available as consumables. Request TIRF Application Notes.

- Transform your fluorometer into a super-sensitive TIRF biosensor
- Install/uninstall TIRF accessory in less than one minute
- Analyze sub-microliter amounts of solutions using new low-volume fluidics
- Employ TIRF in combination with electrochemical, dielectrophoretic, and temperature control

### TIRF Applications include:

Analysis of biomolecular interactions  
Monitoring real-time kinetics  
Determination of k-on and k-off rate constants  
Studies of protein-protein, protein-DNA interactions, and DNA hybridization  
Studies of surface supported membranes  
Nanoengineering. Drug screening  
Lead optimization. Bioassay development...



Computer-controlled fluidics SmartFlow TF1005