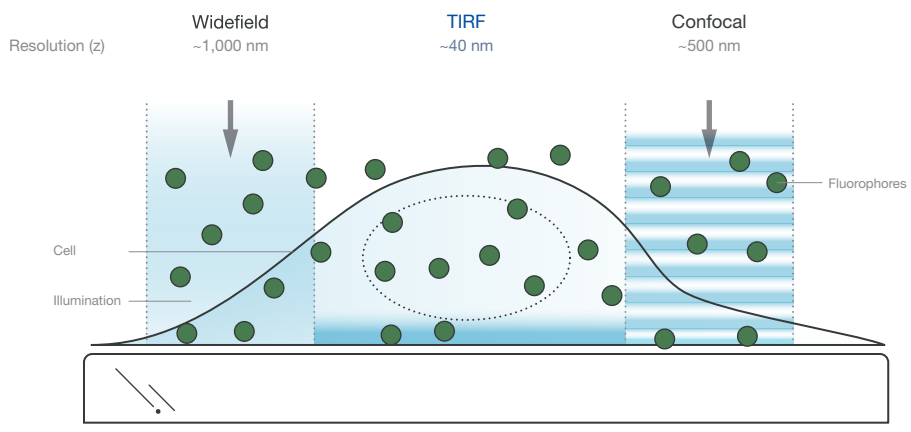
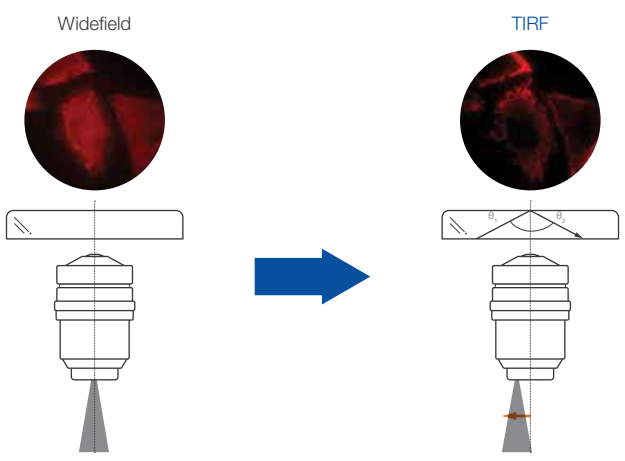
# HOW TIRF WORKS

Total internal reflection fluorescence (TIRF) microscopy enables you to see what's happening in your sample within 200 nm of the cover slip. Here's how it works:



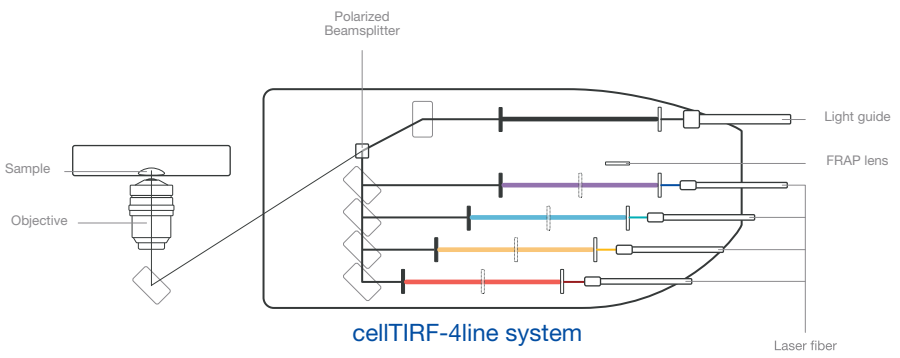

## High Z-Resolution and Signal-to-Noise Ratio

Thanks to the evanescent field created during total internal reflection, only what is in close contact with the coverslip is illuminated.

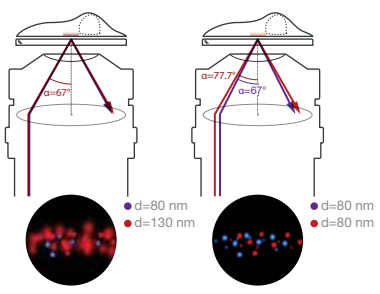


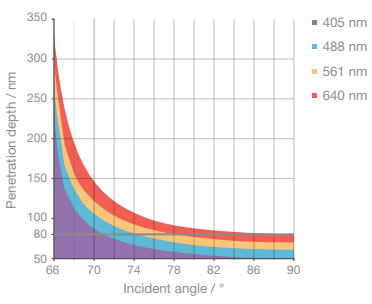

## TIRF Microscopy Principle

TIRF is accomplished by first focusing the laser beam on the back focal plane of the objective. The resulting beam is then shifted off center, enabling the return of the laser after total internal reflection.




cellTIRF-4line system




## Independent Angle Adjustment

The Olympus cellTIRF system enables you to set a different TIRF angle for up to 4 laser lines, resulting in a more uniform penetration depth across multiple wavelengths for multicolor TIRF experiments.

## Applications

- Membrane dynamics
- Single molecule detection
- Colocalization

## Choose from 4 TIRF objectives

60X NA1.5 100X NA1.5 150X NA1.45 100X NA1.7

www.olympus-lifescience.com/en/objectives/tirf-hr