

ADVANCED SPINNING DISK-TIRF MICROSCOPY FOR FASTER IMAGING OF THE CELL INTERIOR AND THE PLASMA MEMBRANE

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KEY WORDS: Multiple imaging, time imaging, biology, illumination design, fluorescence microscopy, three-dimensional microscopy

Understanding the cellular processes that occur between the cytosol and the plasma membrane is an important task for biological research. Till now, however, it was not possible to combine fast and high resolution imaging of both the isolated plasma membrane and the surrounding intracellular volume. Here, we demonstrate the combination of fast high resolution spinning disk (SD) and total internal reflection fluorescence (TIRF) microscopy for specific imaging of the plasma membrane [1]. A customized SD-TIRF microscope was used with specific design of the light paths that allowed, for the first time, live SD-TIRF experiments at high acquisition rates. **The effectiveness of this novel setup will be demonstrated by showing movies regarding, for example, vesicle trafficking and focal adhesion formation.**

[1] B. Zobiak, A.V. Failla, “Advanced spinning disk-TIRF microscopy for faster imaging of the cell interior and the plasma membrane.” *J Microsc.*, 2017 Sep 28.