Spirolactam Probes for Live Cell Imaging: *N*-Alkyl Amides for Increased Cell Penetration & Fluorogenicity

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In the past decades key findings in light microscopy has extended the possibilities of optical imaging methods. Imaging of living cells with a detailed visualization of proteins, structures and organelles has become one of the most important topics in this field.
Although, fluorescent proteins are frequently used for live cell microscopy, due to its beneficial properties organic fluorophores moved into scientific focus. Especially Rhodamines, Carbopyronines and Silicon containing Rhodamines (SiR) are cell permeable and can be combined with ligands or reactive groups forming fluorescent probes for state-of-the-art labeling methods.
Within this study a strategy for creating organic fluorophores and small molecular probes with an improved fluorogenicity, enhanced cell permeability, and suitable photophysical properties have been developed. In turn low amounts of probes are required for recording specific and bright images of living cells with confocal- and STED-microscopy.

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