

# THIOFLAVIN T IS A USEFUL FLUOROPHORE FOR LONG-TERM STED IMAGING OF AMYLOID FIBERS

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Amyloid fibers are insoluble protein aggregates that are involved in several neurodegenerative diseases [1]. We demonstrate that the widely used amyloid-binding dye Thioflavin T (ThT), which becomes fluorescent upon recognition of amyloid structures [2], is a useful fluorophore for STED super-resolution imaging, achieving a lateral resolution of 60-70 nm. We take advantage of the specific and reversible binding of ThT to the fibers, which keeps the unbound fluorophores in a dark state reducing the background, and favors the rapid exchange of eventually photobleached fluorophores. This allows the visualization of super-resolved fibers over long acquisition times and after multiple high intensity STED imaging steps. The use of specific, activatable and exchangeable fluorophores is a powerful approach to circumvent photobleaching limitations in STED microscopy [3].

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