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Tagless Amyloid Binding Super-Resolution Microscopy

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Tagless Amyloid Binding
Super-Resolution Microscopy
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Oligomeric amyloid structures are crucial therapeutic and diagnostic targets in Alzheimer's disease and other amyloid diseases. However, these oligomers are too small to be resolved by conventional light microscopy. We have developed a new tool to image amyloid structures on a nanometer scale using standard amyloid dyes such as Thioflavin T, without the need for covalent labeling of the amyloid protein or staining via fluorescently labeled antibodies. Tagless amyloid binding (TAB) microscopy using TIRF microscope and 488 nm laser excitation promises directly image native amyloid in cells and tissues using standard probes at nanometer resolution.