

Live-cell 3D super-resolution imaging in thick biological samples

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We demonstrate three-dimensional (3D) super-resolution live-cell imaging through thick specimens (50–150 μm), by coupling far-field individual molecule localization with selective plane illumination microscopy (SPIM). The improved signal-to-noise ratio of selective plane illumination allows nanometric localization of single molecules in thick scattering specimens without activating or exciting molecules outside the focal plane. We report 3D super-resolution imaging of cellular spheroids.

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