Time-resolved FRET imaging of protein-protein interactions in living cells

Jun-ichi Uewaki

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Abstract:

Förster resonance energy transfer (FRET) with fluorescent proteins permits high spatial resolution imaging of protein–protein interactions in living cells. However, substantial non-FRET fluorescence background can obscure small FRET signals, making many potential interactions unobservable by conventional FRET techniques. In contrast, time-resolved (TR) FRET can reduce background signals by imposing a time delay between excitation and detection. For TR-FRET, Tb(III) and Eu(III) complexes are used as long lifetime (0.1-2 ms) donners and green fluorescent protein (GFP) or conventional fluorophores are used as short lifetime (approximately nanoseconds) acceptors. In this Journal Club, I introduce TR-FRET microscopy for live-cell imaging of protein–protein interactions.

References: (list the papers you are going to cite in the presentation)

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