

Title: "Visualizing actin filament self-assembly and cernosome-mediated cargo sorting at the TGN"

Abstract:

Protein self-assembly into filament structures is key in many fundamental biological processes. One of these is the actin cytoskeleton, which under the constant surveillance of a multitude of regulators, is an important dynamic structure within the cell. I will present results on how many proteins regulate actin filament dynamics by modulating the filament structure. These observations challenge the standard view of actin filament dynamics and provide an insight into how the subcellular local environment can tune actin filament dynamics. I will also present data for our recently discovered 'cernosome'. This 'some' is a Ca^{+2} -dependent Cab45 oligomer, resident at the lumen of the Trans-Golgi Network involved in secretory cargo sorting. The cernosome provides a novel mechanism to sort secretory proteins without a bona fide receptor that uses a Ca^{+2} signal to induce oligomerization and sort cargo from non-cargo molecules.

Selected references

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