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"Self-organization and load adaptation by mammalian endocytic actin networks"

- A multiscale computational model constrained by experimental measurements showed that a minimal branched actin network is sufficient to internalize endocytic pits against physiological membrane tension.
- Quantitative comparison of simulations and cryo-electron tomograms relates endocytic actin architecture to in situ mechanical function.
- Against elevated load, endocytic actin bends and nucleates the growth of new filaments. This makes the actin network resilient and adaptable in the stochastic environment within cells.
- Expression of SARS-CoV-2 nonstructural proteins in genome-edited stem cells reveals that these viral proteins manipulate cellular cytoskeletal and membrane trafficking machinery during the formation of double-membrane genomic replication compartments.