

Dynamic mTOR network models: Novel links to metabolic inputs

Kathrin Thedieck

Newcastle University, UK

Mammalian target of rapamycin (mTOR) kinase is a central regulator of cellular growth and metabolism and plays an important role in ageing and age-related disease. mTOR is part of two structurally and functionally distinct multiprotein complexes, mTOR complex 1 (mTORC1) and mTORC2. In addition to the existence of two complexes, a variety of network inputs, multiple feedback loops and a myriad of crosstalks with other pathways render the mTOR signalling highly complex. We applied a combined computational-experimental approach and established dynamic mTOR network models. This enabled us to reveal novel network connections and demonstrate novel links to metabolic inputs.

Biography

Kathrin Thedieck has completed her Ph.D. in 2005 from Technical University of Braunschweig and the Helmholtz Centre of Infection Research, Braunschweig, Germany. She did her postdoctoral studies at the Biozentrum, Basel University, Switzerland. Kathrin Thedieck is a group leader for Functional Proteomics of Metabolic Signalling at the Albert-Ludwigs-University Freiburg, Germany. Her research focus is on signal transduction through the mTOR network.

kathrin.thedieck@biologie.uni-freiburg.de