IMG

Institute of Molecular Genetics
of the Czech Academy of Sciences

Regular Wednesday IMG seminar

Vadym Sulimenko

Laboratory of Biology of the Cytoskeleton

"The role of the actin regulator profilin in microtubule organization"

Centrosomes are responsible for microtubule nucleation. Alongside microtubule-associated components, they contain actin and actin-regulatory proteins and can also promote actin polymerization. Profilins are principal control component of actin assembly. In addition to actin, profilin 1 interacts with several different actin nucleation and elongation proteins through its affinity for poly-L-proline (PLP) motifs. Recently, profilin 1 has been reported to associate with microtubules and influence microtubule dynamics. Here, we demonstrate that profilin 1 associates with centrosomes and regulates microtubule nucleation. Profilin 1 mutants impaired in binding either actin or PLP-motif-containing proteins differ in their ability to localize to the centrosome, form complexes with γ-tubulin, and regulate microtubule nucleation. Profilin 1 therefore emerges as an important regulator of actin-microtubule crosstalk at centrosome.

The seminar will be held

on Wednesday 11 November 2026 at 15:00

in the Milan Hašek Auditorium at IMG

(Institute of Molecular Genetics of the Czech Academy of Sciences, Vídeňská 1083, Prague 4)