IMG

Institute of Molecular Genetics
of the Czech Academy of Sciences

Regular Wednesday IMG seminar

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"Regulation of microtubule organization in glioblastoma cells by GIT2 phosphorylation"

Glioblastoma, the most aggressive common type of brain cancer in humans, carries a very poor prognosis for patient survival. Microtubules are critical for cell division and mesenchymal migration, processes that strongly influence tumor viability and invasiveness. While the reorganization of highly dynamic microtubules is central to these events, the mechanisms by which microtubules contribute to glioblastoma cell motility remain poorly understood. We previously demonstrated that ARF GTPase-activating proteins (GITs) associate with γ-tubulin ring complex (γTuRC) proteins. Here, we show that GIT2 localizes to centrosomes, regulates microtubule organization and cell motility. Our findings indicate that the ArfGAP domain of GIT2 and protein kinase C (PKC) are essential for controlling microtubule nucleation. Furthermore, we demonstrate that glioblastoma cells can be effectively treated with newly developed functionalized upconverting nanoparticles (UCNPs), which represent a promising new approach for photodynamic therapy of glioblastoma.

The seminar will be held

on Wednesday 1st October 2025 at 15:00

in the Milan Hašek Auditorium at IMG

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