IMG

Institute of Molecular Genetics
of the Czech Academy of Sciences

Regular Wednesday IMG seminar

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Laboratory of Cancer Cell Biology

"Phosphorylation of the shelterin complex controls maintenance of telomeres"

Chromosomal ends are protected by a shelterin complex that allows maintenance of telomere length and prevents chromosomal fusions. We have recently identified a new mechanism that controls recruitment of the DNA repair proteins to the broken telomeres. In brief, ATR-dependent phosphorylation of TRF2 promotes its interaction with other components of the shelterin complex and prevents the recruitment of 53BP1 and RAD51 to the broken telomeres. Phosphorylation of TRF2 is counteracted by a protein phosphatase PPM1D that we find to be localized at the telomeres. Inhibition, deletion or overexpression of PPM1D influences the assembly of the shelterin complex at telomeres. We conclude that recruitment of DNA repair factors to damaged telomeres is controlled by the opposing activities of ATR and PPM1D towards TRF2.

The seminar will be held

on Wednesday 8th March 2023 at 15:00

in the Milan Hašek Auditorium at IMG

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