

Regular Wednesday IMG seminar



Tomáš Venit

Laboratory of Biology of the Cell Nucleus

“Nuclear myosin 1 – from gene to function”

Mitochondria play a vital role in cellular metabolism by generating energy through oxidative phosphorylation (OXPHOS) in most somatic cells. However, highly proliferative, undifferentiated pluripotent stem cells and cancer cells mainly rely on aerobic glycolysis for energy production. Recently, we reported that nuclear myosin 1 (NM1) functions as a tumor suppressor and a key regulator of cellular metabolism, directly controlling the expression of the mitochondrial transcription factors TFAM and Pgc1 α . Its deletion alters mitochondrial structure, reduces OXPHOS gene expression, induces a metabolic shift toward aerobic glycolysis, and promotes tumor formation in mice. In this talk, I will move from tumor development to somatic tissues and share our latest findings from phenotyping NM1 knockout mice.

The seminar will be held

on Wednesday 3rd December 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)
