Institute of Molecular Genetics
of the Czech Academy of Sciences

Regular Wednesday IMG seminar

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"Cellular senescence escape and antiviral response discriminate glioblastoma from lower-grade gliomas"

Over the past decades, therapeutic advancements have yielded only marginal improvements in glioblastoma (GB) patient outcomes, with overall survival remaining limited. Senescent cells (SCs) promote the malignant progression of GB and negatively affect survival. However, the molecular mechanisms by which they contribute to GB pathogenesis remain poorly understood. Evaluating the role of SCs in human diseases, including cancer, requires a multifaceted approach. Our integrative multi-omics strategy confirmed the presence of SCs in GB patient samples, moreover, it revealed cells escaping senescence and active herpesvirus reactivation as possible drivers of GB aggressiveness. At the same time, the data suggests that both processes, senescence escape and viral infection/reactivation, could be functionally linked. Our data confirms that primary and secondary temozolomide-induced SCs share similar features. Thus, GB-associated SCs are ideal candidates for the development of more aggressive recurrent tumors. Overall, our integrative approach suggests that senolytics and antivirotics are potential novel therapeutic avenues.

The seminar will be held

on Wednesday 4 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)