

	GL leader	Mgr. Michal Šmída, Dr. rer. nat.
1	CEIPEX RESEARCH TOPIC LEVEL2	Molecular Medicine: cancers of the blood
2	RESEARCH GROUP	Functional Genomics
3	TOPICS/FOCUS	Investigation of novel possibilities for targeted therapy in acute myeloid leukemia
4	SUMMARY	<p>Acute myeloid leukemia (AML) is a hard-to-treat malignancy of myeloid blood cell lineage, whose therapy was for decades relying primarily on intensive chemotherapy. Only recently, the first targeted agent venetoclax (an inhibitor of BCL2 antiapoptotic protein) has been approved. Nevertheless, majority of patients does not benefit from venetoclax therapy in long-term, leaving them no other therapeutic options.</p> <p>Our research aims to reveal the molecular mechanisms underlying venetoclax resistance, identify novel targets of therapy and propose new means of targeted treatments with higher success rate, tailored for individual groups of patients. State-of-the-art technologies are applied in our research such as CRISPR/Cas9 gene editing, genome-wide CRISPR/Cas9 knockout screening, large-scale drug screening, CAR-T cell engineering technology, RNA sequencing, single-cell RNAseq and many other cell biology and molecular biology techniques.</p>
5	RG WEBPAGE/CONTACT	https://www.ceitec.eu/functional-genomics/rg214