



Anett Türk-Mázló

Molecular Biologist, Assistant Professor

Research Topics

- **Investigation of the *in vitro* and *in vivo* effects of extracellular vesicles (EVs) derived from viable, apoptotic, necroptotic, pyroptotic, and ferroptotic mesenchymal stem cells (MSC) in melanoma models.**

This research investigates the role of mesenchymal stem cells (MSCs) and their secreted extracellular vesicles in cancer development and progression. MSCs have a complex role in the body because, under different conditions, they may either promote or suppress tumor growth. Their effects can depend on the tumor environment, the condition of the cells, and the biological signals they receive. Therefore, the main objective of this research is to better understand how differently treated or programmed MSCs influence the behavior and proliferation of tumor cells. Special attention is given to different forms of cell death and to molecular factors that may modify the activity of MSCs. The study also investigates the role of microvesicles and exosomes released by these cells, which are important mediators of communication between cells. These secreted factors may influence tumor development, immune responses, and the interaction between cancer cells and their surrounding environment. Both *in vitro* and *in vivo* experimental approaches are used to examine the biological effects of MSCs and their secreted products. The research aims to identify conditions under which MSCs or their extracellular vesicles could potentially be used for anti-cancer purposes. The results may contribute to the development of new cell-based and cell-free therapeutic strategies. Furthermore, this work may provide a better understanding of the complex interactions between tumor cells, stem cells, and the immune system. In the long term, these findings could support the development of more effective approaches for cancer treatment and research.