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RESEARCH AREA

It has long been evident that physical exercise reduces the risk of cancer and improves treatment efficacy in tumor patients. Recent studies have shown that miRNAs are actively released into the circulation during exercise, and are deeply involved in cancer pathology. During our previous research, we detected several microRNAs that protect against the development of lung tumors. In the future, by studying the biological functions of the identified microRNAs, we will be able to better understand the regulatory network of the molecular mechanisms through which regular exercise can prevent lung carcinoma.

TECHNIQUES AVAILABLE IN THE LAB

- Cell culture
- PCR techniques (real-time PCR, digital PCR)
- Running and analysis of 96-well Taqman array plates
- transient transfection
- Use of Qiagen IPA software
- implementation of invasion, migration and cell viability assays

SELECTED PUBLICATIONS

Garai, K., Adam, Z., Herczeg, R., Banfai, K., Gyebrovski, A., Gyenesei, A., Pongracz, J. E., Wilhelm, M., Kvell, K. (2021) Physical Activity as a Preventive Lifestyle Intervention Acts Through Specific Exosomal miRNA Species-Evidence From Human Short- and Long-Term Pilot Studies. **Front Physiol. 22:** 794940.

Garai, K., Adam, Z., Herczeg, R., Katai, E., Nagy, T., Pal, S., Gyenesei, A., Pongracz, J. E., Wilhelm, M., Kvell, K. (2019) Artificial Neural Network Correlation and Biostatistics Evaluation of Physiological and Molecular Parameters in Healthy Young Individuals Performing Regular Exercise. **Front Physiol. 10:** 1242.