

Ing. Alexandra Poturnayová, Ph.D. – works as a Scientific Researcher at the Department of Laboratory Diagnostic Methods in Healthcare and as an independent researcher at the Institute of Molecular Physiology and Genetics, Centre of Biosciences of the Slovak Academy of Sciences. Her main long-term research focuses on studying the mechanisms of interactions between DNA aptamers and various biomolecules or biomarkers on the cell surface. She is skilled in immobilization techniques of different biologically active substances on surfaces, which are essential for biosensor development. She is an expert in bio-recognition techniques (QCM/TSM, SPR) and microscopic imaging using confocal microscopy and atomic force microscopy (AFM), with an emphasis on biological applications. She has collaborated on the development of biosensors applicable in various fields, including the food industry, but her main focus is on biosensors for biomedical research. She is a principal investigator and a member of several research teams funded by Slovak scientific agencies (VEGA, APVV) and has participated in major international projects (Intellitip, MILKSENS, FORMILK). In 2016, she was appointed as an independent researcher. In addition to her scientific work, she is also engaged in teaching. She is an accredited supervisor of bachelor's, master's, and doctoral theses in the fields of biochemistry and biophysics.

Born: 1982

Ph.D.: 2016

Publications:

1. DOMŠICOVÁ, Michaela - KORČEKOVÁ, Jana - **POTURNAYOVÁ, Alexandra** - BREIER, Albert**. New Insights into Aptamers: An Alternative to Antibodies in the Detection of Molecular Biomarkers. In International Journal of Molecular Sciences, 2024, vol. 25, no. 13, art. no. 6833. (2023: 4.9 - IF, Q1 - JCR, 1.179 - SJR, Q1 - SJR). ISSN 1422-0067. Dostupné na: <https://doi.org/10.3390/ijms25136833>
2. DOMŠICOVÁ, Michaela** - KUREKOVÁ, Simona - BÁBELOVÁ, Andrea - JAKIČ, Kristína - ORAVCOVÁ, Iveta - NÉMETHOVÁ, Veronika - RÁZGA, Filip - BREIER, Albert - GÁL, Miroslav** - **POTURNAYOVÁ, Alexandra****. Advancements in Chronic Myeloid Leukemia detection: Development and evaluation of a novel QCM aptasensor for use in clinical practice. In Biochemistry and Biophysics Reports, 2024, vol. 39, no., art. no. 101816. (2023: 2.3 - IF, Q3 - JCR, 0.584 - SJR, Q2 - SJR). ISSN 2405-5808. Dostupné na: <https://doi.org/10.1016/j.bbrep.2024.101816>
3. IZSÁK, Tibor** - VARGA, Marian - KOČÍ, M. - SZABÓ, O. - AUBRECHTOVÁ DRAGOUNOVÁ, K. - VANKO, Gabriel - GÁL, Pavel - GÁL, Miroslav - KORČEKOVÁ, Jana - HORNYCHOVÁ, Michaela - **POTURNAYOVÁ, Alexandra** - KROMKA, A. Diamond-coated quartz crystal microbalance sensors: Challenges in high yield production and enhanced detection of ethanol and sars-cov-2 proteins. In Materials and Design, 2024, vol. 248, art. no. 113474. (2023: 7.6 - IF, Q1 - JCR, 1.684 - SJR, Q1 - SJR). ISSN 0261-3069. Dostupné na: <https://doi.org/10.1016/j.matdes.2024.113474>
4. NEMČEKOVÁ, Katarína - KORČEKOVÁ, Jana - SVITKOVÁ, Veronika - BARANIAK, Denis - DOMŠICOVÁ, Michaela - MELNÍKOVÁ, Eva - HORNYCHOVÁ, Michaela - SZEBELLAIOVÁ, Viktória - GÁL, Miroslav** - **POTURNAYOVÁ, Alexandra****. Comparative Analysis of QCM and Electrochemical Aptasensors for SARS-CoV-2 Detection. In Biosensors, 2024, vol. 14,

- no. 9, art. no. 431. (2023: 4.9 - IF, Q1 - JCR, 0.707 - SJR, Q1 - SJR). ISSN 2079-6374.
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5. NÉMETHOVÁ, Veronika** - BABIAKOVÁ, Petra - TEGLASOVÁ, Boglarka - UHELSKÁ, Lucia - BÁBELOVÁ, Andrea - ŠELC, Michal - JAKIČ, Kristína - MITROVSKÝ, Ondrej - MYSLIVCOVÁ, Denisa - ZACKOVÁ, Markéta - **POTURNAYOVÁ, Alexandra** - BÁTOROVÁ, Angelika - DRGOŇA, Ľuboš - RÁZGA, Filip**. ASP210: a potent oligonucleotide-based inhibitor effective against TKI-resistant CML cells. In American Journal of Physiology - Cell Physiology, 2024, vol. 327, no. 1, pp. C184-C192. (2023: 5 - IF, Q1 - JCR, 1.711 - SJR, Q1 - SJR). ISSN 0363-6143. Dostupné na: <https://doi.org/10.1152/ajpcell.00188.2024>