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**Professional curriculum vitae**

*Education*

- 2015 – 2018 BSc., Biology of Medicine, Faculty of Natural Sciences, Comenius University in Bratislava, Slovakia, (Bachelor thesis: *DNA sequence diversity of hepatitis C virus*)  
2018 – 2020 MSc., Molecular biology, Faculty of Natural Sciences, Comenius University in Bratislava, Slovakia, (Master thesis: *Analysis of growth and expression of recombinant proteins in Vibrio natriegens*)  
2020 – PhD, Normal and Pathological Physiology, Institute of Molecular Biomedicine, Faculty of Medicine, Comenius University, Bratislava, Slovakia, (Dissertation thesis: *The role of neutrophils in pathogenesis of rheumatoid arthritis*)

*Internship*

- 2022 – 2022 10 months research stay, Surgery department in Harvard Medical School, Beth Israel Deaconess Center, Boston (Topic of stay: neutrophils, cytomegalovirus)

*Employment*

- 2018 – 2019 Cielene spol. s r. o. – teacher  
2019 – 2020 The state Institute for Drug Control – assistant

*Conference*

- 2018 – Interactive Conference of Young Scientists  
2018 – Student Conference – The Faculty of Natural Sciences, Comenius University in Bratislava  
2019 – Interactive Conference of Young Scientists  
2019 – Student Conference – The Faculty of Natural Sciences, Comenius University in Bratislava  
2019 – Student Scientific Conference with international participation “Chemistry and Technologies for Life” – The Faculty of Chemical and Food Technology  
2021 – XVI. Student Scientific Conference (ŠVOČ), Medical faculty, Comenius University, Bratislava, Slovakia  
2022 – 97th Physiological days in Prague, Charles University in Prague  
2023 – 98th Physiological days in Prague, Charles University in Prague

*Awards*

- 2019 – 2. place at Student Scientific Conference with international participation “Chemistry and Technologies for Life”, The Faculty of Chemical and Food Technology (applied biocatalysis)  
2020 – Award of the Rector of UK,  
2021 – 2. Place at XVI. Student Scientific Conference (ŠVOČ), Medical faculty, Comenius University, Bratislava, Slovakia  
2023 – 1. Place at Falling Walls Lab Slovakia

*Teaching*

Faculty of Medicine – Pathophysiology

*Grants as principal investigator*

- UK grant –UK/438/2021 The use of exogenous DNase as a new potential treatment for rheumatoid arthritis  
UK grant – UK/333/2023 The role of neutrophil extracellular traps in rheumatoid arthritis

## *Publications*

Hirsch index: 2

5 most important publications:

**Macáková K**, Illésová J, Mlynáriková V, Lesayová A, Konečná B, Vlková B, Celec P, Šteňová E: The dynamics of extracellular DNA associates with treatment response in patients with rheumatoid arthritis. *Sci Rep.* 2022 Dec 6;12(1):21099. doi: 10.1038/s41598-022-23954-8.

Schuh BM, **Macáková K**, Feješ A, Groß T, Belvončíková P, Janko J, Juskanič D, Hollý S, Borbélyová V, Šteňová E, Pastorek M, Vlková B, Celec P. Sex differences in long-term effects of collagen-induced arthritis in middle-aged mice. *Frontiers in Physiology*, 14: 1195604. <https://doi.org/10.3389/fphys.2023.1195604>

**Macáková K**, Tekeľová M, Mlynáriková V, Šebeková K, Vlková B, Celec P, Šteňová E. Metabolic Effects of Anti-TNF- $\alpha$  Treatment in Rheumatoid Arthritis. *Diseases.* 2023 Nov 9;11(4):164. doi: 10.3390/diseases11040164. PMID: 37987275; PMCID: PMC10660495.

**Macáková K**, Kaczmarek E, Itagaki K. Can Neutrophils Prevent Nosocomial Pneumonia after Serious Injury? *Int J Mol Sci.* 2023 Apr 21;24(8):7627. doi: 10.3390/ijms24087627. PMID: 37108790.

Marandu TF, Dombek M, Gutknecht M, Griessl M, Riça IG, Vlková B, **Macáková K**, Panagioti E, Griffith A, Lederer J, Yaffe M, Shankar S, Otterbein L, Itagaki K, Hauser CJ, Cook CH. Cytomegalovirus durably primes neutrophil oxidative burst. *J Leukoc Biol.* 2023 Aug 12:qiad091. doi: 10.1093/jleuko/qiad091. Epub ahead of print. PMID: 37566762.