



Agnieszka Krupa

ASSOCIATE PROFESSOR – UNIVERSITY OF LODZ

✉ agnieszka.krupa@biol.uni.lodz.pl | 🏠 www.uni.lodz.pl/pracownicy/agnieszka-krupa | 📄 agnieszka-krupa-b60b891a
| 🆔 0000-0003-1303-4608 | Scopus bibliometric data: citations **898** · documents **41** · h-index **16**

Currently held positions

Department of Immunology and Infectious Biology, Faculty of Biology and Environmental Protection

University of Lodz

ASSOCIATE PROFESSOR

Scientific profile and collaborations

My research interests focus on ischemic heart disease, particularly emphasizing the role of infectious factors, such as *Helicobacter pylori*, and dietary influences in the disease's development and progression. **I am currently working** to elucidate the mechanisms involved in the inflammatory processes affecting the vascular endothelium during coronary heart disease (CHD). Additionally, **I am characterizing an innovative complex** designed to modulate CHD-related inflammation—precisely, colchicine enclosed in polymeric nanoparticles. **My research also examines** the role of the NLRP3 inflammasome in the development and progression of CHD, focusing on its role in transforming macrophages into foam cells that contribute to atherosclerotic plaques. Furthermore, I collaborate with Materials Science Research Centers to develop the safest and most effective biocomposites for regenerative medicine applications in bone and cartilage. Due to more than 10 years of scientific experience at the Health Science Center, Tyler, TX, USA, topics related to respiratory diseases, especially ARDS / ALI and COPD, are close to my heart and constitute my expertise.

Selected publications

- 2024 *Helicobacter pylori* components increase the severity of metabolic syndrome and its hepatic manifestations induced by a high-fat diet [\[link\]](#)
- 2021 *Helicobacter pylori* infection acts synergistically with high-fat diet in the development of a proinflammatory and potentially proatherogenic endothelial cell environment in an experimental model [\[link\]](#)
- 2023 *Bioactive Materials for Bone Regeneration: Biomolecules and Delivery Systems* [\[link\]](#)

Research grants

Principal Investigator: 3 grants: 2R&D projects (in cooperation with Research and Production Center of the Lodz University of Technology ICHEM sp.z o.o.; in cooperation with Mineral logic, USA), 1 IDUB project

Co-Investigator: 1 grant: TEAM-NET FNP

Obtained patents

8 patent applications to Polish Patent Office

2 patent applications to European Patent Office

International research stays

Mineral Logic, USA