CURRICULUM VITAE

PERSONAL DETAILS

Name: Codrici Elena

Researcher unique identifier(s) (such as ORCID, Research ID, etc.): https://orcid.org/0000-0002-5507-1020

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- **Education and key qualifications**

2014-2015	Postdoc Project POSDRU/159/1.5/S/141531
2012	PhD (no. 3639 of 27.03.2012) University of Bucharest, Faculty of Biology, Romania
2004	MSc in Genetics (no. 823/05.04.2005) University of Bucharest, Faculty of Biology, Bucharest, Romania
2002	BSc in Biology (no 2535/29.05.2003) University of Bucharest, Faculty of Biology, Bucharest, Romania

- **Current position(s)**

2023 - present	Head of Biochemistry-Proteomics Laboratory Victor Babeș National Institute of Pathology Bucharest, Romania
2017-present	Researcher grade B (CSII) Victor Babeș National Institute of Pathology Bucharest, Romania
2023 - present	Assistant lecturer of Cellular, Molecular Biology and Histology Faculty of Medicine, Carol Davila University of Medicine and Pharmacy Bucharest, Romania Cellular, Molecular Biology and Histology Department,

- **Previous position(s)**

2006- 2017	Researcher grade C (CSIII)
2002-2006	Assistant researcher Biochemistry-Proteomics Laboratory, Victor Babeș National Institute of Pathology Bucharest, Romania

RESEARCH ACHIEVEMENTS AND PEER RECOGNITION

Research achievements

The main research focus is on application of proteomic technologies in the discovery of new panels of biomarkers/therapeutic targets and understanding of molecular mechanisms in which they are involved, in different tumor pathology (intracranial tumors: glioblastomas and pituitary tumors; pancreatic or colorectal tumors; cervical cancer; prostate cancer etc) and other major diseases (chronic kidney disease, cardiovascular diseases) or animal models (transgenic mice). Research stage in advanced proteomics, St. George's Medical Biomics Centre, University of London, London

The scientific activity was focused on the following ground-breaking research:

a) investigation of cytokines/chemokines, specific receptors (CD36, CD47, CD97) and activation of apoptosis pathways (AFAP-1, Cathepsin B) in cancers; the relation between tumor microenvironment and inflammation, tumor progression, and the regulation of angiogenic markers. In order to do this, we used proteomics to identify circulating biomarkers that can serve as therapeutic targets for cancer treatment, focusing on the modulation of the tumor microenvironment and the impact on disease progression. The results were disseminated in ISI Journals. Significant papers include:

- Fatty Acids, CD36, Thrombospondin-1, and CD47 in Glioblastoma: Together and/or Separately? Tanase C; Enciu AM; Codrici E et al; IJMS, 23(2):604, 2022, DOI: 10.3390/ijms23020604 (IF-5.6)

- CD36 and CD97 in Pancreatic Cancer versus Other Malignancies, Cr Tanase, A-A Gheorghisan-Galateanu, ID Popescu, S Mihai, E Codrici, et al Int J Mol Sci. 2020 Aug 6;21(16):5656. doi: 10.3390/ijms21165656 (IF-5.6)

- Glioma Stem Cells and Their Microenvironments: Providers of Challenging Therapeutic Targets. Codrici E., et al. Stem Cells Int.; 2016:5728438. doi: 10.1155/2016/5728438. (IF-4.3)

b) investigation of the inflammation-related pathways and mechanisms involved in the pathogenesis of chronic inflammatory diseases (chronic kidney disease, chronic inflammatory skin / psoriasis pathology, and chronic inflammatory corneal disease - keratoconus) or elucidating the complex interplay between the gut microbiota and the immune system, aiming to identify biomarkers and therapeutic targets for more effective treatment strategies across these conditions. Also, we used an inflammatory mouse-model disease, in order to elucidate the complex interplay between the immune system and caveolin-1.

- Immune Portrayal of a New Therapy Targeting Microbiota in an Animal Model of Psoriasis, M Surcel, ..., E Codrici, et al, J Pers Med. 2023;13(11):1556. doi: 10.3390/jpm13111556. (IF-3.4)

- Proteomic Biomarkers Panel: New Insights in Chronic Kidney Disease, S. Mihai, E. Codrici, et al, (equal contribution), Disease Markers, 2016, Article ID 3185232 (IF-3.464)

- Overexpression of Tear Inflammatory Cytokines as Additional Finding in Keratoconus Patients and Their First-Degree Family Members. Ionescu IC, ..., Codrici E, et al. Mediators Inflamm. 2018: 4285268. doi: 10.1155/2018/4285268. (IF-4.6)

- Caveolin-1-Knockout Mouse as a Model of Inflammatory Diseases, E Codrici, et al, J Immunol Res, vol. 2018, Article ID 2498576, 10 pages (IF-4.1)

- Inflammation-Related Mechanisms in Chronic Kidney Disease Prediction, Progression, and Outcome, Mihai S, Codrici E, et al., J Immunol Res. 2018; 2018:2180373. doi: 10.1155/2018/2180373. IF=3,6 (Q2) **– 509 citări ianuarie 2026**

c) analyze the inflammatory profile and redox genes in elderly patients with cardiovascular disease and investigating the role of the secretome of myocardial telocytes in modulating of cardiac stem cells activity, aiming to uncover novel insights into the molecular mechanisms underlying cardiovascular pathology and regeneration. The results were published in original ISI articles, mentioned in section C2.

d) *in vitro* testing to evaluate the biocompatibility, cytotoxicity, and anti-inflammatory properties of different materials and compounds, including biohybrid hydrogel membranes, silver and silica nanoparticles, novel dietary supplement, calcium phosphate-based bioceramics for orthopedic and dentistry applications, aiming to assess their potential for medical and therapeutic applications. Thus, another direction of research was represented by the transfer of technology and knowledge/expertise from the institute to private enterprises in the production sector, as well as the use of biochemical and proteomic analyzes in the evaluation of the impact of different bioproducts on health human. Further notable publications encompass:

- Formulation and Comprehensive Evaluation of Biohybrid Hydrogel Membranes Containing Doxycycline or Silver Nanoparticles, D Stan,...,E Codrici, et al, Pharmaceutics. 2023;15(12):2696. doi: 10.3390/pharmaceutics15122696. (IF-5.4)

- Exploring the Impact of Alginate-PVA Ratio and the Addition of Bioactive Substances on the Performance of Hybrid Hydrogel Membranes as Potential Wound Dressings, D Stan, E Codrici, et al Gels. 2023;9(6):476. doi: 10.3390/gels9060476. (IF-4.6)

- In vitro assessment of the cytotoxicity and anti-inflammatory properties of a novel dietary supplement, ID Popescu, E Codrici, et al Exp Ther Med. 2021;22(4):1170. doi: 10.3892/etm.2021.10604. (IF-2.7)

e) assessing the effects of fatty acids from sea-buckthorn seed oil on cellular regeneration, proliferation, and their potential anti-tumoral properties, focusing on the early increase in IL-8 levels in normal human astrocytes, the regenerative impact on normal skin cells, and the induced proliferation of both normal and dysplastic keratinocytes under basal conditions and UVA irradiation, aiming to uncover mechanisms that could support therapeutic strategies for skin health and cancer prevention.

- Low-Concentrations of Fatty Acids Induce an Early Increase in IL-8 Levels in Normal Human Astrocytes, Dobri AM;Codrici E et al, Metabolites,12(4):329,2022,DOI:10.3390/metabo12040329 IF-4.1

- A Fatty Acid Fraction Purified From Sea Buckthorn Seed Oil Has Regenerative Properties on Normal Skin Cells, M Dudau, E Codrici, et al, Front Pharmacol 2021;12:737571. doi: 10.3389/fphar.2021.737571. (6 citations, IF-5.6)

Peer recognition

- **evaluator** for **national** (Romania-Moldova) **and international** projects (COST)
- **reviewer** for ISI Journals Signal Transduction and Therapy Target (IF: 40,8), Biomolecules and Biomedicine (IF: 2,2), Cellular and Molecular Neurobiology (IF:4,8), Molecular Biology Reports-Springer Nature (IF:2,8) etc

- **awards**: winning by selection 5 scholarships at the FEBS Congress: 2011, 2013-2015, 2017 and a scholarship ECI (2021); winning a FEBS scholarship through selection at the international Advanced Theoretical and Practical Course: Recombinant DNA Technology & Protein Expression.
- **Patents**: co-inventor to 6 patents granted / 11 patents request. Patenting activity was rewarded with >20 medals and 7 diplomas of excellence, at ProInvent, InfoInvent, EuroPolitehnicus, EuroInvent etc
  - **Process for obtaining an active product from sapropelic mud and the product thus obtained** – granted 2024, OSIM RO133249 (B1)
  - **Method for identifying the amyloid precursor protein in high–molecular-weight protein complexes** – granted 2024, OSIM RO132970 (B1)
  - **Set of biomarkers for the diagnosis and prognosis of cervical cancer achieved through proteomic profile analysis** – granted 2022, OSIM RO130591 (B1)
  - **Proteomic profile obtained by mass spectrometry for the detection of brain tumors** – granted 2022, OSIM RO130589 (B1)
  - **Method for establishing a set of soluble biomarkers for the diagnosis, prognosis, or monitoring of glioblastoma, and method for the diagnosis, prognosis, or monitoring of glioblastoma based on the use of this set** – granted 2018, OSIM RO130590 (B1)
  - **Plant-derived flavonoid bioproduct (Proflav) and process for obtaining the same** – granted 2013, OSIM RO127270 (B1)
- **Trainer** in xMAP array technology at UMF Târgu Mureș and UMF Carol Davila, Bucharest.
- **Editorial board**: Journal of Cell Identity
- involved in more than **60 national research projects**, **leading 5 of them**
  - ***Molecular approaches in 3D models (tumor spheroids) gene edited by the CRISPR/Cas9 method in the development of solutions for personalized medicine in cancer*** PN23.16-02.03 (2023-2024);
  - ***Molecular signature in the evaluation of the anti-tumor effect of some metalic nanoparticles obtained by green synthesis*** - PN 18.21.01.06 (2018);
  - ***Pellamar - a name in search of its lost fame*** – PN-II-PT-PCCA-2013-4-1470, Contract 256/2014 (2014-2017);
  - ***Establishing a set of biomarkers for transgenic mice caveolin-1 (-/-) using xMAP technology, 2DGE and SELDI-TOF*** - PN 09.33-04.15 (2009-2015);
  - ***Comparative analysis of biomarkers profiling in transgenic mice c-kit (-/-) by proteomic technology*** - PN 06.26-02.19 (2008)
- involved in **8 projects with European Funds**:
  - ROGEN, cod 324809 (https://rogen.umfcd.ro/proiectul-rogen/)
  - PNRR-III-C9-2022 – I5 (www.ivb.ro/pnrr-iii-c9-2022-i5)
  - POC (NOVATERA, nr. 438/390114/2023, Cod SMIS 156316)
  - POC-G (INTELBIOMED, ID: P_40_197; http://www.intelbiomed.ro/);
  - POSDRU (DPD, 159/1.5/S/141531; http://dpd-dru.ro/);
  - POSDRU (TDM, 81/3.2/S/58819; http://www.tdm-dru.ro/beta/);
  - POSCCE (CANBIOPROT Nr. 685/ctr. 152; https://www.ivb.ro/v3/ro/canbioprot/);
  - POC-E (REDBRAIN, ID: P_37_732; http://www.redbrain.ro/);
- **Member in 2 COST Actions**: CA21135, Modelling immunotherapy response and toxicity in cancer (IMMUNO-model) (https://www.immuno-model.eu/); CA22103 Net4Brain A Comprehensive European Network for Brain Cancer (https://net4brain-cost.eu/)
- **Membership in academic societies**: Romanian Society of Immunology; Romanian Society of Biochemistry and Molecular Biology (FEBS Constituent Society);

ADDITIONAL INFORMATION

Total number of publications: 95 (Web of Science),
Total number of citations (excluding self-citations): >1,500 (Web of Science),
H-index: 19 (Web of science).

Other contributions to the research community

My aptitude for leadership and management competencies is demonstrated through:

- planning and coordinating experiments as project director for 5 national projects
- coordination and planning of meetings as Expert in the Expanded Commission on Bioeconomy and Health of the CCCDI - in different panels (2021-present);
- managing quality control activities as the research process manager (SR EN ISO 9001:2015) at the IVB;
- managing quality control activities as the quality manager in a RENAR accredited medical analysis laboratory, within the IVB (2006-2017);
- involved in organizing national conferences as a member of the organizing team.