

PERSONAL INFORMATION



SESĂRMAN Viorica Alina

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✉ sesarman@gmail.com; alina.sesarman@ubbcluj.ro;

Sex female | Date of birth 17/06/1981 | Romanian

WORK EXPERIENCE

(2012-present)

Assistant professor

Babes-Bolyai University, Department of Molecular Biology and Biotechnology, Cluj-Napoca, Romania

- Teaching activities (Biochemistry of proteins and introduction to proteomics, Biochemistry of carbohydrates and lipids, Enzymes and biocatalysis, Clinical biochemistry)
- Research activities (Cancer biology, Drug delivery systems, Oxidative stress, Inflammation)

Business or sector Education and research

(2010-2012)

Research assistant

Babes-Bolyai University, Department of Molecular Biology and Biotechnology, Cluj-Napoca, Romania

- Teaching ((Biochemistry of proteins and introduction to proteomics, Biochemistry of carbohydrates and lipids, Enzymes and biocatalysis, Clinical biochemistry)
- Research activities (the effect of parasites on the annual variations of the immunological and of oxidative stress markers in birds)

Business or sector Education and research

(2009-2010)

Postdoctoral fellow

University of Freiburg, Department of Dermatology, Freiburg, Germany

- Research activities aimed at deciphering the mechanisms governing antibody-mediated autoimmune blistering diseases against adhesion proteins (collagen VII and XVII) from the skin

Business or sector Research

EDUCATION AND TRAINING

(2005-2008)

PhD in Biology

Faculty of Biology and Geology, "Babes-Bolyai" University, Cluj-Napoca, Romania

- Theoretical knowledge and practical skills related to the PhD thesis in the domain of Biology.

(2006-2007)

Doctoral fellow at the Department of Dermatology, University of Luebeck, Germany

- The research activity aimed at deciphering the mechanisms governing antibody-mediated autoimmune blistering diseases against adhesion proteins (collagen VII and XVII) from the skin.

(2004-2005)

MSc. in Cell and Molecular Biology

Faculty of Biology and Geology, "Babes-Bolyai" University, Cluj-Napoca, Romania

- Theoretical knowledge and practical skills related to Cellular and Molecular Biology, Bioinformatics, Recombinant DNA technology.

(2000-2004)

BSc. in Biology

Faculty of Biology and Geology, "Babes-Bolyai" University, Cluj-Napoca, Romania

- Theoretical knowledge and practical skills related to Biochemistry, Organic chemistry, Thermodynamics, Cytology, Molecular Biology, Zoology, Human Anatomy, Animal physiology, Plant physiology.

PERSONAL SKILLS

Mother tongue(s)	Romanian				
Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C2
	Replace with name of language certificate. Enter level if known.				
French	C2	C1	C2	C2	C2
	Replace with name of language certificate. Enter level if known.				

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills good communication skills gained during my experience as doctoral and postdoctoral fellow in international research groups and as a member in national research projects

Job-related skills **Technical skills in the field of Immunology/Biochemistry/Molecular biology/Bionanotechnology: *in vitro*:** ELISA, Western blot, protein array, immunofluorescence microscopy, isolation and cultivation of mammalian primary cells (macrophages, neutrophils, dendritic cells from blood and bone marrow, keratinocytes and fibroblasts from skin, T cells from spleen/lymph nodes), cancer cell lines cultivation, production of polyclonal antibodies; specific methods assessing oxidative stress (ROS, enzymatic/non-enzymatic antioxidants, malondialdehyde determination by HPLC); electrophoresis, chromatographic methods, spectrophotometric/ spectrofluorimetric methods, enzymatic measurements, molecular cloning techniques; preparation of liposomes; ***in vivo***-manipulation of experimental animals- mice (anesthesia, euthanasia, bleedings, biopsies, injection, immunization) and modelling of human diseases in mice.

Digital skills	SELF-ASSESSMENT				
	Information processing	Communication	Content creation	Safety	Problem solving
	Proficient user	Proficient user	Independent user	Independent user	Independent user

Levels: Basic user - Independent user - Proficient user
[Digital competences - Self-assessment grid](#)

ADDITIONAL INFORMATION

2021-present Reviewer for *Molecular medicine reports*
 2020-present Reviewer for *Cancer Management and Research*
 2019-present Reviewer for *Frontiers in Immunology*
 2005-2006 ERASMUS fellowship at Department of Dermatology, University of Luebeck, Germany.
 Brainmap ID U-1700-039J-2103
 Pubmed link: <https://pubmed.ncbi.nlm.nih.gov/?term=sesarman+a>

ANNEXES

Annex 1- List of publications
 Annex 2- Participation in national funding projects

Annex 1- List of publications

Articles published in ISI journals

1. Sesarman A, Mihai S, Chiriac MT, Olaru F, Sitaru AG, Thurman JM, Zillikens D and Sitaru C. Binding of avian IgY to

type VII collagen does not activate complement and leukocytes and fails to induce subepidermal blistering in mice. *Br J Dermatol*, 158:463-7, 2008.

2. Sesarman A, Sitaru AG, Olaru F, Zillikens D and Sitaru C. Neonatal Fc receptor deficiency protects from tissue injury in experimental epidermolysis bullosa acquisita. *J Mol Med*, 86:951-9, 2008.

3. Sitaru AG, Sesarman A, Mihai S, Chiriac MT, Zillikens D, Solbach W, Hultman P and Sitaru C. T cells are required for initiation of autoimmunity in experimental epidermolysis bullosa acquisita. *J Immunol*, 184(3):1596-603, 2010.

4. Csorba K, Sesarman A, Oswald E, Feldrihan V, Fritsch A, Hashimoto T and Sitaru C. Cross-reactivity of autoantibodies from patients with epidermolysis bullosa acquisita with murine collagen VII. *Cell Mol Life Sci*, 67(8):1343-51, 2010.

5. Sesarman A, Vidarsson G and Sitaru C. The neonatal Fc receptor (FcRn) as therapeutic target in IgG-mediated autoimmune diseases. *Cell Mol Life Sci*, 67(15) 2533-2550, 2010.

6. Oswald E, Sesarman A, Franzke CW, Wolffe U, Bruckner-Tuderman L, Jakob T, Martin SF and Sitaru C. The flavonoid luteolin inhibits fcgamma-dependent respiratory burst in granulocytes, but not skin blistering in a new model of pemphigoid in adult mice. *Plos One*, 7 (2):e31066-e31066, 2012.

7. van der Steen LP, Bakema JE, Sesarman A, Florea F, Tuk CW, Kirtschig G, Hage JJ, Sitaru C and van Egmond M. Blocking Fcα receptor I on granulocytes prevents tissue damage induced by IgA autoantibodies. *J Immunol*, 189:1594-1601, 2012.

8. Sesarman A, Oswald E, Chiriac MT, Csorba K, Vuta V, Feldrihan V, Baican A, Bruckner-Tuderman L and Sitaru C. Why human pemphigoid autoantibodies do not trigger disease by the passive transfer into mice? *Immunol Lett*, 143(1):92-100.2013.

9. Chiriac MT, Licarete E, Rados AM, Sas AG, Lupan I, Chiriac AM,, Speth H, Pop-Vancia V, Domsa I, Sesarman A, Popescu O and Sitaru C. Passive transfer of collagen XVII-specific antibodies induces sustained blistering disease in adult mice. *Orphan J Rare Dis*, doi: 10.1186/1750-1172-8-17, 2013.

10. Druga B, Weker M, Sesarman A, Hegedus A, Coman C, Sicora C and Dragos N. Molecular characterization of microcystin-producing cyanobacteria from Romanian fresh waters. *Eur J Phycol*, 48(3):287-94, 2013.

11. Pap PL, Sesarman A, Vágási CI, Buehler DM, Pătraș L, Versteegh MA and Banciu M. No Evidence for Parasitism-linked Changes in Immune Function or Oxidative Physiology over the Annual Cycle of an Avian Species. *Physiol Biochem Zool*, 87(5):729-39. doi: 10.1086/676934, 2014.

12. Pap PL, Pătraș L, Osváth G, Buehler DM, Versteegh MA, Sesarman A, Banciu M and Vágási CI. Seasonal Patterns and Relationships among Coccidian Infestations, Measures of Oxidative Physiology, and Immune Function in Free-Living House Sparrows over an Annual Cycle. *Physiol Biochem Zool*, 88(4):395-405, 2015.

13. Licarete E, Sesarman A and Banciu M. Exploitation of pleiotropic actions of statins by using tumor-targeted delivery systems. *Journal of Microencapsulation*, 32(7):619-31, 2015.

14. Baldea B, Olteanu DE, Bolfa P, Ion RM, Decea N, Cenariu M, Banciu M, Sesarman AV and Filip AG. Efficiency of photodynamic therapy on WM35 melanoma with synthetic porphyrins: Role of chemical structure, intracellular targeting and antioxidant defense. *J Photochem Photobiol B*, 151:142-52, 2015.

15. Patras L, Sesarman A, Licarete L, Luca L, Alupeii MC, Rakosy-Tican E and Banciu M. Dual role of macrophages in the response of C26 colon carcinoma cells to 5-fluorouracil administration. *Oncol Lett*. 12(2):1183-1191, 2016.

16. Licarete E, Sesarman A, Rauca VF, Luput L, Patras L, Banciu M. HIF-1α acts as a molecular target for simvastatin cytotoxicity in B16.F10 melanoma cells cultured under chemically induced hypoxia. *Oncol Lett*. 13(5): 3942-3950, 2017.

17. Patras L, Sylvester B, Luput L, Sesarman A, Licarete E, Porfire A, Muntean D, Drotar DM, Rusu AD, Nagy AL, Catoi C, Tomuta I, Vlase L, Banciu M, Achim M. Liposomal prednisolone phosphate potentiates the antitumor activity of liposomal 5-fluorouracil in C26 murine colon carcinoma in vivo *Cancer Biol Ther* 18(8): 616-626, 2017.

18. Luput L, Licarete E, Sesarman A, Patras L, Alupeii MC, Banciu M. Tumor-associated macrophages favor C26 murine colon carcinoma cell proliferation in an oxidative stress-dependent manner. *Oncol Rep* 37(4): 2472-2480, 2017.

19. Tefas LR, Sylvester B, Tomuta I, Sesarman A, Licarete E, Banciu M, Porfire A. Development of antiproliferative long-circulating liposomes co-encapsulating doxorubicin and curcumin, through the use of a quality-by-design approach. *Drug Des Devel Ther*. 11:1605-1621, 2017.

20. Sesarman A, Tefas L, Sylvester B, Licarete E, Rauca V, Luput L, Patras L, Banciu M, Porfire A. Anti-angiogenic and anti-inflammatory effects of long-circulating liposomes co-encapsulating curcumin and doxorubicin on C26 murine colon

cancer cells. *Pharmacol Rep* 70(2): 331-339, 2017.

21. Luput L, Licarete E, Drotar DM, Nagy AL, Sesarman A, Patras L, Rauca VF, Porfire A, Muntean D, Achim M, Tomuta I, Vlase L, Catoi C, Dragos N, Banciu M. *In Vivo Double Targeting of C26 Colon Carcinoma Cells and Microenvironmental Protumor Processes Using Liposomal Simvastatin*. *J Cancer*; 9(2):440-449, 2018.

22. Sylvester B, Porfire A, Muntean DM, Vlase L, Lupuț L, Licarete E, Sesarman A, Alupei MC, Banciu M, Achim M, Tomuță I. *Optimization of prednisolone-loaded long circulating liposomes via application of Quality by Design (QbD) approach*. *J Liposome Res*, 28(1):49-61, 2018.

23. Rauca, V-F, Licarete, E, Luput, L, Sesarman, A, Patras, L, Bulzu, P and Banciu, M. *Combination therapy of simvastatin and 5, 6-dimethylxanthenone-4-acetic acid synergistically suppresses the aggressiveness of B16.F10 melanoma cells*. *PLoS ONE*, 13(8), e0202827. <http://doi.org/10.1371/journal.pone.0202827>, 2018.

24. Sesarman A, Tefas L, Sylvester B, Licarete E, Rauca V, Luput L, et al. *Co-delivery of curcumin and doxorubicin in PEGylated liposomes favored the antineoplastic C26 murine colon carcinoma microenvironment*. *Drug Deliv Transl Res*, 9(1):260–72, 2019.

25. Rauca, V-F, Vlase, L, Casian, T, Sesarman, A, Gheldiu, A-M, Mocan, A, Banciu, M, Toiu, A., *Biologically Active Ajuga Species Extracts Modulate Supportive Processes for Cancer Cell Development*. *Front Pharmacol* 10. <https://doi.org/10.3389/fphar.2019.00334>, 2019.

26. Licarete E, Rauca VF, Luput L, Patras L, Sesarman A, Banciu M. *The prednisolone phosphate-induced suppression of the angiogenic function of tumor-associated macrophages enhances the antitumor effects of doxorubicin on B16.F10 murine melanoma cells in vitro*. *Oncol Rep*. doi: 10.3892/or.2019.7346, 2019.

27. Sesarman, A, Muntean, D, Abrudan, B, Tefas, L, Sylvester, B, Licarete, E, Rauca, V, Luput, L, Patras, L, Banciu, M, Vlase, L, Porfire, A. *Improved pharmacokinetics and reduced side effects of doxorubicin therapy by liposomal co-encapsulation with curcumin*. *Journal of Liposome Research* 1–10. <https://doi.org/10.1080/08982104.2019.1682604>, 2019.

28. Buda, D-M, Bulzu, P-A, Barbu-Tudoran, L, Porfire, A, Pătraș, L, Sesărman, A, Tripon, S, Șenilă, M, Ionescu, MI, Banciu, HL, *Physiological response to silver toxicity in the extremely halophilic archaeon Halomicrobium mukohataei*. *FEMS Microbiol. Lett.* 366. <https://doi.org/10.1093/femsle/fnz231>, 2019.

29. Luput L, Sesarman A, Porfire A, Achim M, Muntean D, Casian T, Patras L, Rauca, VF, Drotar DM, Stejerean I, Tomuta I, Vlase L, Dragos N, Toma VA, Licarete E, Banciu M. *Liposomal simvastatin sensitizes C26 murine colon carcinoma to the antitumor effects of liposomal 5-fluorouracil in vivo*. *Cancer Sci*. 2020 Apr;111(4):1344-1356. doi: 10.1111/cas.14312.

30. Licarete E, Rauca VF, Luput L, Drotar D, Stejerean I, Patras L, Dume B, Toma VA, Porfire A, Gherman C, Sesarman A, Banciu M. *Overcoming Intrinsic Doxorubicin Resistance in Melanoma by Anti-Angiogenic and Anti-Metastatic Effects of Liposomal Prednisolone Phosphate on Tumor Microenvironment*. *Int J Mol Sci*. 2020, Apr 23;21(8):2968. doi: 10.3390/ijms21082968. PMID: 32340166; PMCID: PMC7215436.

31. Patras L, Fens MHAM, Vader P, Barendrecht A, Sesarman A, Banciu M, Schiffelers R. *Normoxic Tumour Extracellular Vesicles Modulate the Response of Hypoxic Cancer and Stromal Cells to Doxorubicin In Vitro*. *Int J Mol Sci*. 2020, Aug 19;21(17):5951. doi: 10.3390/ijms21175951.

Book chapters

32. Sesarman A and Sitaru C. *Induction of experimental Epidermolysis Bullosa Acquisita by immunization with murine collagen VII*. *Molecular Dermatology. Methods and protocols. Methods in molecular biology*, Ed. Humana Press, 961:371-87, 2013.

Articles published in BDI/ B+ journals

33. Olaru F, Sesarman A, Banciu H, Banciu M and Petrescu I. *Spectrofluorometric analysis of chicken IgY stability after urea treatment*. *Studia Universitatis Babeș-Bolyai, Biologia, LIII*, 2008/1, p.51-58, 2008.

34. Sesarman A and Licarete E. *Strategies to improve the efficacy of curcumin in colorectal cancer treatment*. *Studia Universitatis Babeș-Bolyai Biologia, IX*, 2, p. 97-112, 2015

Scientometric indicators: Hirsch index: - 16, citations no: 653 (Google Scholar)
 - 13, citations no: 443 (Web of Science)
 - 14, citations no: 469 (Scopus)

Cumulative impact factor: 103.473

Annex 3- Participation in national/international funding projects

- 2007-2008- project coordinator** in a C.N.C.S.I.S. grant (Cod 94), type TD, No.350/1/10.2007. Financed by: CNCSIS. Host Institution: UBB Cluj. Title „Study of avian IgY anti-idiotypic antibodies”. Project coordinator: Sesarman Viorica Alina.
- 2010-2012- member** in a C.N.C.S.I.S. grant, type TE, No. 291/2010. Financed by: CNCSIS. Host Institution: UBB Cluj. Title „ Resistance and tolerance to parasitism as a mediator of avian life history: the role of oxidative stress and immune cell system". Project coordinator: Dr. Pap Peter Laszlo.
- 2014-2015- postdoctoral researcher** in a Sectoral Operational Programme for Human Resources Development 2007-2013, co-financed by the European Social Fund, under the project POSDRU/159/1.5/S/133391-“Doctoral and postdoctoral excellence programs for training highly qualified human resources for research in the fields of Life Sciences, Environment and Earth”. (<http://www.unibuc.ro/n/organizare/biro-fond-stru/>). Title:” Strategies to modulate the oxidative stress and inflammation associated with tumor development in colorectal cancer”.
- 2015-2017- member** in a UEFISCDI grant, No. PN-II-RU-TE- 2014-4-1191. Financed by: UEFISCDI. Host Institution: UBB Cluj. Title „Re-education strategies of tumor-associated macrophages-perspective for future combined tumor-targeted therapies". Project coordinator: Dr. Manuela Banciu.
- 2015-2017- member** in a UEFISCDI grant, No. PN-II-RU-TE- 2014-4-0920. Financed by: UEFISCDI. Host Institution: UBB Cluj. Title „Doxorubicin and curcumin co-incapsulated in long-circulating nanoformulations to improve the efficiency for colon cancer therapy". Project coordinator: Dr. Alina Porfire.
- 2017- 2019- member** in a UEFISCDI grant, No. PN-III-P4-ID-PCE-2016-0342. Financed by: UEFISCDI. Host Institution: UBB Cluj. Title: “Tumor intercellular communication tools-inspiration for future tumor-targeted therapies”. Project coordinator: Dr. Manuela Banciu.
- 2018- present- member** in a UEFISCDI grant, PN-III-P4-ID-PCCF-2016-0016, No. PCCF 15 / 10.10.2018. Host Institution: UBB Cluj. Title: “Food chains in the dark: diversity and evolutionary processes in caves” (DARKFOOD). Project coordinator: Dr. Horia Banciu
- 2020-present- Project coordinator** of a private grant funded by "L'Oréal - UNESCO for Women in Science"; title: "3D biomimetic platform- in vitro technology mimicking skin melanoma chemoresistant microenvironment for the screening of anticancer therapies"; budget: 47.000 lei.
- 2020-present- Project coordinator** of an UBB internal grant for Young Researchers; title: "Targeted therapy with extracellular vesicles loaded with anti-inflammatory agents and immune checkpoint inhibitors for the modulation of antitumor immune response in melanoma microenvironment"; budget: 50.000 le

Cluj-Napoca,
10.06.2021

Assist. Prof. Dr. Viorica Alina Sesarman

