

Curriculum Vitae

ELENA ZENARO, PhD

ORCID: 0000-0003-3928-6272

PERSONAL INFORMATION

Family name: Zenaro

First name: Elena

Date of birth: July 19, 1978

Citizenship: Italian

Work address: University of Verona, Istituti Biologici, Strada le Grazie 8, 37134 Verona, Italy

Phone: 0039 045 8027271; Mobile: 0039 328 8518580

Email: elena.zenaro@univr.it, elena.zenaro@gmail.com

Personal website page: dp.univr.it/~zenaro/

Researcher unique identifier: ORCID: 0000-0003-3928-6272

EDUCATION

April 2009 Ph.D. in Molecular and Cellular Biology and Pathology.

Faculty of Medicine, Department of Pathology, University of Verona, Italy.

February 2003 Master's degree in Biotechnology, carrying out a research project at the University of Helsinki in collaboration with the University of Verona, Faculty of Mathematical, Physical and Natural Science, Italy.

July 1997 Baccalaureate

High school for laboratory technicians, E. Fermi Institute, Verona, Italy.

WORK EXPERIENCE

Current position

December 2024 - present

Associate Professor. Section of General Pathology, Department of Medicine, Faculty of Medicine, University of Verona, Italy.

December 2021 – November 2024

Assistant Professor (RTDb). Section of General Pathology, Department of Medicine, Faculty of Medicine, University of Verona, Italy.

Previous positions

April 2009 – November 2021

Postdoctoral position. Section of General Pathology, Department of Medicine, Faculty of Medicine, University of Verona, Italy.

Supervisor: Prof. G. Constantin.

January 2005 – December 2008

Ph.D. student, Faculty of Medicine, Department of Pathology, University of Verona, Italy.

Supervisor: Prof. S. Dusi.

The project focused on the modulation of human dendritic cell activity by pathogens. Her main interest was to understand innate immunity mechanisms during infectious diseases. She independently carried out two main projects on the role of human dendritic cells in the immunological response to pathogens. Both projects were successful, and Dr. Zenaro is the first author and wrote the drafts of the manuscripts published in 2007 in *Eur. J. Immunol.* and in 2009 in *J. Leukoc. Biol.*

October 2004 – December 2004

Research fellow, Department of Biotechnology, University of Verona, Italy.

Supervisor: Prof. H. Monaco and Prof. J.R. van der Meer.

The project focused on the characterization of the crystallography structure of the transcriptional regulator HbpR.

RESEARCH EXPERIENCE ABROAD

March 2003 – September 2004

Research fellow in the laboratory of Prof. J.R. van der Meer at EAWAG (Swiss Federal Institute for Environmental Science and Technology, Zurich) and in the Department of Fundamental Microbiology, University of Lausanne, Switzerland.

Supervisor: Prof. J.R. van der Meer.

The project focused on developing bacterial biosensors to assess contaminant toxicity in environmental matrices. During this period, Dr. Zenaro mainly used standard microbiological methods and molecular biology techniques to perform gene mutagenesis and clone the protein HbpR, a prokaryotic transcriptional regulator that detects and reports the presence of specific chemical signals. She also contributed to standardizing a method of enriching and separating these transcription regulator mutants by flow cytometry-assisted cell sorting (FACS). Overall, she developed an in vitro system to enhance or reduce the native effector recognition of the HbpR protein. The results obtained by Dr. Zenaro were published in *Microbial Biotechnology* in 2008.

February 2002 – October 2002

Research activity at the Department of Applied Chemistry and Microbiology, Faculty of Agriculture and Forestry, University of Helsinki, Finland. The research project was part of the experimental thesis for the master in biotechnology. Supervisors: Prof. M. Salkinoja-Salonen and Prof. G. Vallini.

The project focused on the characterization of the *Burkholderia* sp. strain DBT1, an interesting bacterium for bioremediation protocols. This project was successfully carried out and published in *FEMS Microbiol Lett* (2011), in which Dr. Zenaro is a co-author.

FELLOWSHIPS, CONTRACTS AND AWARDS

2009 – 2010 Assegno di Ricerca from the Department of Pathology, University of Verona, Italy. Project title: “Ruolo del microambiente nei fenomeni di escape immunologico e nella regolazione della crescita tumorale. Studio di meccanismi che influenzano la risposta all’immunoterapia”.

2010 – 2011 Assegno di Ricerca from the Department of Pathology, University of Verona, Italy. Project title: “Molecular mechanisms controlling leukocyte trafficking in the central nervous system”.

2012 Marco Vergelli Award from the “Associazione Italiana di Neuroimmunologia” for studies on the role of immune cells in Alzheimer’s disease.

- 2012 – 2015 Assegno di Ricerca from the Department of Pathology, University of Verona, Italy. Project title: “Molecular mechanisms controlling leukocyte trafficking in the central nervous system”.
- 2015 – 2016 Postdoctoral Research Fellowship from the “Fondazione Umberto Veronesi”. Project title: “Role of neutrophil trafficking in Alzheimer's disease and identification of novel therapeutic approaches for neurodegenerative disorders”.
- 2016 – 2017 Assegno di Ricerca from the Department of Medicine, University of Verona, Italy. Project title: “Meccanismi di reclutamento di diverse sottopopolazioni leucocitarie in modelli murini transgenici per la malattia di Alzheimer”. The research was conducted in the context of the ERC Advanced Grant “The role of immune cells in Alzheimer’s disease,” Acronym: Immunoalzheimer.
- 2019 – 2020 Postdoctoral Research Fellowship from the “Fondazione Umberto Veronesi”. Project title: Neutrophil-microbiome axis controlling brain inflammation in Alzheimer’s disease.
- 2020 – 2021 Postdoctoral Research Fellowship from the “Fondazione Umberto Veronesi”. Project title: Neutrophil-microbiome axis controlling brain inflammation in Alzheimer’s disease.

TEACHING ACTIVITIES

- Teaching activities for the Degree in Nursing, University of Verona, Italy.
 - From the A.A. 2023-2024 to now: Pathophysiology. (30 academic hours).
- Teaching activities for Master students of “Biology for translational research and precision medicine” (LM6). University of Verona, Italy.
 - From the A.A. 2022-2023 to now: Molecular and cellular basis of diseases. (32 academic hours).
- Teaching activities for Master students of “Molecular and medical biotechnology” (LM9). University of Verona, Italy.
 - From the A.A. 2022-2023 to now: Experimental models in biomedical research. (24 academic hours).
- Teaching activities for Master's students of the Master's degree in Medicine and Surgery. University of Verona, Italy.
 - From the A.A. 2021-2022 to now: Lecture titled: “Experimental models in biomedical research”. (8 academic hours).
- Teaching activities for Postgraduate Specialization in Clinical Pathology and Clinical Biochemistry. University of Verona, Italy.
 - From the A.A. 2020-2021 till now: Lecture titled: “Experimental models in biomedical research”. (8 academic hours).
- Teaching activities for the integrated course of Physio-pathological Sciences (General Pathology and Internal Medicine), Bachelor's Degree in Speech Therapy, University of Verona, Italy.
 - A.A. 2019-2020: Teaching activities for General Pathology and Immunology course (16 academic hours).
 - A.A. 2020-2021: Teaching activities for General Pathology and Immunology course (20 academic hours).
- Lectures for Ph.D. students of the Doctoral program “Inflammation, Immunity and Cancer” – Ph.D. School in Life and Health Sciences, University of Verona, Italy.
 - A.A. 2016-2017: 2 academic hours, lesson titled: “Gut microbiota in neurodegeneration”. <http://www.dm.univr.it/?ent=ava&cs=627&id=412>.
 - A.A. 2017-2018: 2 academic hours, lesson titled: “Inflammation mechanisms in

- Alzheimer's disease". <http://www.dm.univr.it/?ent=ava&cs=627&id=424>.
- A.A. 2018-2019: 8 academic hours, a course titled: "Gut microbiota in health and disease". Lecture 1: "Microbiota: the forgotten organ"; Lecture 2: "Role of the microbiota in the regulation of immune system; Lecture 3: "Microbiota in neurodegenerative diseases"; Lecture 4: "Prebiotics, Probiotics and Postbiotics". <http://www.dm.univr.it/?ent=ava&cs=627&id=523>.
 - A.A. 2020-2021: 2 academic hours, lesson titled: "Microbiota and mechanisms of immune regulation". <https://www.dm.univr.it/?ent=oi&ava=1&cs=627&id=619>.
 - A.A. 2022-23: 2 academic hours, lesson titled: "Role of the microbiota in regulating the immune system". <https://www.dm.univr.it/?ent=persona&id=3962&lang=en#tab-didattica>.
 - A.A. 2023-24: 4 academic hours, lesson titled: "Experimental model in neurodegenerative diseases".
<https://www.dm.univr.it/?ent=oi&aa=2023%2F2024&codiceCs=DRS-IICA&codins=DT000486&cs=627&discr=&discrCd=>

INSTITUTIONAL RESPONSIBILITIES

- 2006 – 2009. Ph.D. student representative for the Molecular and Cellular Biology and Pathology doctoral program, University of Verona, Italy.
- 2022 – present. Member of the Executive Council of "Interdepartmental Centre for Experimental Research (CIRSAL)". University of Verona, Italy.

MEMBERSHIPS IN SCIENTIFIC SOCIETIES

- 2009 – present. Member of the Italian Society of Neuroimmunology (AINI).
- 2005 – present. Member of the Italian Society of Immunology and Allergology (SIICA).

EDITORIAL & REVIEWING ACTIVITIES

- Associate Editor of Cellular and Molecular Neurobiology (Springer Nature group).
- Review Editor for Inflammation Pharmacology (specialty section of Frontiers in Pharmacology).
- Review Editor for Neurodegeneration (specialty section of Frontiers in Neuroscience, Frontiers in Neurology and Frontiers in Psychiatry).
- Review Editor for International Journal of Molecular Science, Journal of Neuroimmunology, Scientific Reports, Frontiers in Immunology, Frontiers in Cell and Developmental Biology.
- Editor for: Cell Biology (Science Publishing Group, <http://www.sciencepublishinggroup.com/journal/editorialboard?journalid=111>), Biology (MDPI, https://www.mdpi.com/journal/biology/topic_editors).
- Guest Editor for Frontiers in Neuroscience, Special Issue "Neurodegenerative Diseases: Looking Beyond the Boundaries of the Brain" (Frontiers, <https://www.frontiersin.org/research-topics/14773/neurodegenerative-diseases-looking-beyond-the-boundaries-of-the-brain?>).
- Grant Review Editor for Neurological Foundation (New Zealand) and Association pour la recherche sur la Sclerose Laterale Amyotrophique et autres Maladies du Motoneurone (France).

SCIENTIFIC ACTIVITY

Dr. Zenaro obtained a degree in Biotechnology in 2003 and a Ph.D. in Molecular and Cellular Pathology in 2009 at the University of Verona. Her early research experience spanned environmental microbiology and molecular biology, including work on bacterial systems for bioremediation and biosensing, with a strong foundation in gene manipulation, protein regulation, and flow cytometry-based approaches. During her Ph.D., she developed a primary interest in immunology, focusing on innate immune mechanisms and dendritic cell responses to pathogens.

Since 2009, her research has focused on neuroimmunology, with a particular emphasis on the mechanisms of leukocyte trafficking and immune cell dynamics in the central nervous system during neuroinflammatory and neurodegenerative conditions. She has contributed to the immune characterization of experimental models of Alzheimer's disease and multiple sclerosis, investigating how immune responses drive neuroinflammation and cognitive dysfunction. Her work integrates advanced imaging approaches, and she has established expertise in intravital and two-photon microscopy to study immune cell behavior in vivo.

Her scientific interests have progressively expanded to include the role of systemic inflammation, brain barriers, and the gut–brain axis in neurodegeneration. She has also developed experience in setting up experimental platforms for behavioral analysis and managing advanced microscopy facilities. Overall, her research is characterized by a strong interdisciplinary approach, combining immunology, neuroscience, and cutting-edge imaging technologies to dissect complex disease mechanisms.

PUBLICATIONS AND BIBLIOMETRY

- International peer-reviewed publications: 32 (7 first author, 20 original research, 12 reviews)
- Number of citations: 3026 (tracked by Scopus, January 2026)
- Scopus *h-index* 2007-2025: 22
- Conference abstracts: 48

PUBLICATION IN INTERNATIONAL JOURNALS

* indicates equal contribution. # indicates the corresponding author.

Citations reported in Scopus (as of January 27, 2026). Impact Factor (IF) from JCRreport2023.

1. [G-CSF treatment of severe congenital neutropenia reverses neutropenia but does not correct the underlying functional deficiency of the neutrophil in defending against microorganisms.](#) Donini M, Fontana S, Savoldi G, Vermi W, Tassone L, Gentili F, **Zenaro E**, Ferrari D, Notarangelo LD, Porta F, Facchetti F, Notarangelo LD, Dusi S, Badolato R. *Blood*. 2007 Jun 1;109(11):4716-23. Epub 2007 Feb 20. PMID: 17311988.
IF: **20.3**. Citations in Scopus: **82**.
2. [NADPH oxidase of human dendritic cells: role in *Candida albicans* killing and regulation by interferons, dectin-1 and CD206.](#) Donini M*, **Zenaro E***, Tamassia N, Dusi S. *Eur J Immunol*. 2007 May;37(5):1194-203. PMID: 17407098.
IF: **5.4**. Citations in Scopus: **50**.
3. [Mutant HbpR transcription activator isolation for 2-chlorobiphenyl via green fluorescent protein-based flow cytometry and cell sorting.](#) Beggah S, Vogne C, **Zenaro E**, Van Der Meer JR. *Microb Biotechnol*. 2008 Jan;1(1):68-78. doi: 10.1111/j.1751-7915.2007.00008.x. PMID: 21261823.
IF: **5.7**. Citations in Scopus: **27**.
4. [Induction of Th1/Th17 immune response by *Mycobacterium tuberculosis*: role of dectin-1, Mannose Receptor, and DC-SIGN.](#) **Zenaro E**, Donini M, Dusi S. *J Leukoc Biol*. 2009 Dec;86(6):1393-401. doi: 10.1189/jlb.0409242. Epub 2009 Sep 22. PMID: 19773555.
IF: **5.5**. Citations in Scopus: **101**.
5. [Regulation of leukocyte recruitment by the long pentraxin PTX3.](#) Deban L, Russo RC, Sironi M, Moalli F, Scanziani M, Zambelli V, Cuccovillo I, Bastone A, Gobbi M, Valentino S, Doni A, Garlanda C, Danese S, Salvatori G, Sassano M, Evangelista V, Rossi B, **Zenaro E**, Constantin

- G, Laudanna C, Bottazzi B, Mantovani A. *Nat Immunol*. 2010 Apr;11(4):328-34. doi: 10.1038/ni.1854. Epub 2010 Mar 7. PMID: 20208538.
IF: **30.5**. Citations in Scopus: **372**.
6. [Vascular inflammation in central nervous system diseases: adhesion receptors controlling leukocyte-endothelial interactions.](#) Rossi B, Angiari S, **Zenaro E**, Budui SL, Constantin G. *J Leukoc Biol*. 2011 Apr;89(4):539-56. doi: 10.1189/jlb.0710432. Epub 2010 Dec 17. Review. PMID: 21169520.
IF: **5.5**. Citations in Scopus: **153**.
 7. [Inverse agonism of cannabinoid CB1 receptor blocks the adhesion of encephalitogenic T cells in inflamed brain venules by a protein kinase A-dependent mechanism.](#) Rossi B, **Zenaro E**, Angiari S, Ottoboni L, Bach S, Piccio L, Pietronigro EC, Scarpini E, Fusco M, Leon A, Constantin G. *J Neuroimmunol*. 2011 Apr;233(1-2):97-105. doi: 10.1016/j.jneuroim.2010.12.005. Epub 2011 Jan 7. PMID: 21216016.
IF: **3.3**. Citations in Scopus: **21**.
 8. [Burkholderia fungorum DBT1: a promising bacterial strain for bioremediation of PAHs-contaminated soils.](#) Andreolli M, Lampis S, **Zenaro E**, Salkinoja-Salonen M, Vallini G. *FEMS Microbiol Lett*. 2011 Jun;319(1):11-8. doi: 10.1111/j.1574-6968.2011.02259.x. Epub 2011 Mar 31. PMID: 21388438.
IF: **2.1**. Citations in Scopus: **54**.
 9. [Use of imaging to study leukocyte trafficking in the central nervous system.](#) **Zenaro E**, Rossi B, Angiari S, Constantin G. *Immunol Cell Biol*. 2013 Apr;91(4):271-80. doi: 10.1038/icb.2012.81. Epub 2013 Jan 22. Review. PMID: 23337699.
IF: **4**. Citations in Scopus: **24**.
 10. [ESAT-6 and HspX improve the effectiveness of BCG to induce human dendritic cells-dependent Th1 and NK cells activation.](#) Marongiu L, Donini M, Toffali L, **Zenaro E**, Dusi S. *PLoS One*. 2013 Oct 9;8(10):e75684. doi: 10.1371/journal.pone.0075684. eCollection 2013. PMID: 24130733.
IF: **3.7**. Citations in Scopus: **28**.
 11. [Regulatory T cells suppress the late phase of the immune response in lymph nodes through P-selectin glycoprotein ligand-1.](#) Angiari S, Rossi B, Piccio L, Zinselmeyer BH, Budui S, **Zenaro E**, Della Bianca V, Bach SD, Scarpini E, Bolomini-Vittori M, Piacentino G, Dusi S, Laudanna C, Cross AH, Miller MJ, Constantin G. *J Immunol*. 2013 Dec 1;191(11):5489-500. doi: 10.4049/jimmunol.1301235. Epub 2013 Oct 30. PMID: 24174617.
IF: **4.4**. Citations in Scopus: **39**.
 12. [TIM-1 glycoprotein binds the adhesion receptor P-selectin and mediates T cell trafficking during inflammation and autoimmunity.](#) Angiari S, Donnarumma T, Rossi B, Dusi S, Pietronigro E, **Zenaro E**, Della Bianca V, Toffali L, Piacentino G, Budui S, Rennert P, Xiao S, Laudanna C, Casanovas JM, Kuchroo VK, Constantin G. *Immunity*. 2014 Apr 17;40(4):542-53. doi: 10.1016/j.immuni.2014.03.004. Epub 2014 Apr 3. PMID: 24703780.
IF: **32.4**. Citations in Scopus: **70**.
 13. [Neutrophils promote Alzheimer's disease-like pathology and cognitive decline via LFA-1 integrin.](#) **Zenaro E**, Pietronigro E, Della Bianca V, Piacentino G, Marongiu L, Budui S, Turano E, Rossi B, Angiari S, Dusi S, Montresor A, Carlucci T, Nani S, Tosadori G, Calciano L, Catalucci

- D, Berton G, Bonetti B, Constantin G. *Nat Med*. 2015 Aug;21(8):880-6. doi: 10.1038/nm.3913. Epub 2015 Jul 27. PMID: 26214837.
IF: **82.9**. Citations in Scopus: **710**.
14. [Imaging of Leukocyte Trafficking in Alzheimer's Disease](#). Pietronigro E, **Zenaro E**, Constantin G. *Front Immunol*. 2016 Feb 15;7:33. doi: 10.3389/fimmu.2016.00033. eCollection 2016. Review. PMID: 26913031.
IF: **7.3**. Citations in Scopus: **41**.
 15. [The blood-brain barrier in Alzheimer's disease](#). **Zenaro E**, Piacentino G, Constantin G. *Neurobiol Dis*. 2017 Nov;107:41-56. doi: 10.1016/j.nbd.2016.07.007. Epub 2016 Jul 15. Review. PMID: 27425887.
IF: **6.1**. Citations in Scopus: **594**.
 16. [Targeting neuroinflammation in the treatment and prevention of Alzheimer's disease](#). **Zenaro E**, Constantin G. *Drugs of the Future* 42(1):21. January 2017. doi: 10.1358/dof.2017.042.01.2564104. Review.
IF: **0.2**. Citations in Scopus: **4**.
 17. [NETosis in Alzheimer's Disease](#). Pietronigro EC, Della Bianca V, **Zenaro E**, Constantin G. *Front Immunol*. 2017 Mar 2;8:211. doi: 10.3389/fimmu.2017.00211. eCollection 2017. Review. PMID: 28303140.
IF: **7.3**. Citations in Scopus: **132**.
 18. [Blockade of \$\alpha 4\$ integrins reduces leukocyte-endothelial interactions in cerebral vessels and improves memory in a mouse model of Alzheimer's disease](#). Pietronigro E*, **Zenaro E***, Della Bianca V, Ghasemi S, Nagarajan R, Constantin G. *Sci Rep*. 2019 Aug 19; 9(1):12055. doi: 10.1038/s41598-019-48538-x. PMID: 31427644.
IF: **4.6**. Citations in Scopus: **55**.
 19. [LFA-1 Controls Th1 and Th17 Motility Behavior in the Inflamed Central Nervous System](#). Dusi S, Angiari S, Pietronigro EC, Lopez N, Angelini G, **Zenaro E**, Della Bianca V, Tosadori G, Paris F, Amoroso A, Carlucci T, Constantin G, Rossi B. *Front Immunol*. 2019 Oct 18;10:2436. doi: 10.3389/fimmu.2019.02436. PMID: 31681316.
IF: **7.3**. Citations in Scopus: **24**.
 20. [The emerging role of neutrophils in neurodegeneration](#). Rossi B, Constantin G, **Zenaro E**[#]. *Immunobiology*. 2019 Nov 9. doi: 10.1016/j.imbio.2019.10.014. Review. PMID: 31740077.
IF: **2.8**. Citations in Scopus: **48**.
 21. [In vitro models of neurodegenerative diseases](#). Slanzi A, Iannoto G, Rossi B, **Zenaro E**, Constantin G. *Front Cell Dev Biol*. 2020 13 May. doi.org/10.3389/fcell.2020.00328. Review. PMID: 32528949.
IF: **5.5**. Citations in Scopus: **221**.
 22. [Common peripheral immunity mechanisms in multiple sclerosis and Alzheimer's disease](#). Rossi B, Santos-Lima B, Terrabuio E, **Zenaro E**, Constantin G. *Front Immunol*. 2021 Feb 19. doi.org/10.3389/fimmu.2021.639369. PMID: 33679799.
IF: **7.3**. Citations in Scopus: **60**.

23. [The role of neutrophils in the dysfunction of central nervous system barriers.](#) Santos-Lima B., Pietronigro EC, Terrabuio E, **Zenaro E[#]**, and Constantin G[#]. *Frontiers in Aging Neuroscience*. 2022 August, 14;1663-4365. doi: 10.3389/fnagi.2022.965169. PMID: 36034148
IF: **4.8**. Citations in Scopus: **48**.
24. [Editorial: Neurodegenerative Diseases: Looking Beyond the Boundaries of the Brain.](#) Gutiérrez-Ospina G, Perez-Cruz C, **Zenaro E** and Zille M. *Frontiers in Neuroscience*. 2022 June, 23. doi: 10.3389/fnins.2022.929786. PMID: 35812215
IF: **4.3**. Citations in Scopus: **0**.
25. [Neutrophils inhibit \$\gamma\delta\$ T cell functions in the imiquimod-induced mouse model of psoriasis.](#) Costa S, Bevilacqua D, Caveggion E, Gasperini S, **Zenaro E**, Donini M, Dusi S, Pettinella F, Constantin G, Lonardi S, Vermi W, De Sanctis F, Ugel S, Cestari T, Abram C, Lowell CA, Rodegher A, Tagliaro F, Girolomoni G, Cassatella MA, Scapini P. *Frontiers in Immunology*. 2022 November, 15. Doi:10.3389/fimmu.2022.1049079.
IF: **7.3**. Citations in Scopus: **8**.
26. [Systemic Inflammation Causes Microglial Dysfunction With a Vascular AD phenotype.](#) Bathini P, Dupanloup I, **Zenaro E**, Terrabuio E, Fischer A, Babaliani E, Doucey MA, Alberi L. *Brain, Behavior, & Immunity*, March 2023. Doi: 10.1016/j.bbih.2022.100568.
IF: **15.1**. Citations in Scopus: **13**.
27. [Alpha4 beta7 integrin controls Th17 cell trafficking in the spinal cord leptomeninges during experimental autoimmune encephalomyelitis.](#)
Rossi B, Dusi S, Angelini G, Bani A, Lopez N, Della Bianca V, Pietronigro EC, **Zenaro E**, Zocco C and Constantin G.
Front Immunol. 2023 Apr 18;14:1553. <https://doi.org/10.3389/fimmu.2023.1071553>.
PMID: 37143680
IF: **7.3**. Citations in Scopus: **7**.
28. [An isoform of the giant protein titin is a master regulator of human T lymphocyte trafficking.](#)
Toffali L, D'Ulivo B, Giagulli C, Montresor A, **Zenaro E**, Delledonne M, Rossato M, Iadarola B, Sbarbati A, Bernardi P, Angelini G, Rossi B, Lopez N, Linke WA, Unger A, Di Silvestre D, Benazzi L, De Palma A, Motta S, Constantin G, Mauri P, and Laudanna C.
Cell Reports. 2023 May 18; 42(5):112516. <https://doi.org/10.1016/j.celrep.2023.112516>.
PMID: 37204926
IF: **8.8**. Citations in Scopus: **4**.
29. [The role of the CD8+ T cell compartment in ageing and neurodegenerative disorders.](#)
Terrabuio E, **Zenaro E**, Constantin G. *Front Immunol*. 2023 Jul 28;14:1233870. doi: 10.3389/fimmu.2023.1233870. PMID: 37575227.
IF: **7.3**. Citations in Scopus: **23**.
30. [Plasmacytoid Dendritic Cell, Slan⁺-Monocyte and Natural Killer Cell Counts Function as Blood Cell-Based Biomarkers for Predicting Responses to Immune Checkpoint Inhibitor Monotherapy in Non-Small Cell Lung Cancer Patients.](#)
Pettinella F, Lattanzi C, Donini M, Caveggion E, Marini O, Iannoto G, Costa S, **Zenaro E**, Fortunato TM, Gasperini S, Giani M, Belluomini L, Sposito M, Insolda J, Scaglione IM, Milella M, Adamo A, Poffe O, Bronte V, Dusi S, Cassatella MA, Ugel S, Pilotto S, Scapini P. *Cancers (Basel)*. 2023 Nov 3;15(21):5285. doi: 10.3390/cancers15215285. PMID: 37958458.
IF: **5.2**. Citations in Scopus: **6**.

31. [Coenzyme A fueling with pantethine limits autoreactive T cell pathogenicity in experimental neuroinflammation.](#)
 Angiari S, Carlucci T, Budui SL, Bach SD, Dusi S, Walter J, Ellmeier E, Schnabl A, Stracke A, Bordag N, Tafrahi C, Demjaha R, Khalil M, Angelini G, Terrabuio E, Pietronigro EC, **Zenaro E**, Laudanna C, Rossi B, Constantin G. *J Neuroinflammation*. 2024 Nov 5;21(1):287. doi: 10.1186/s12974-024-03270-w. Citations in Scopus: **3**.
32. [CD103-CD8+ T cells promote neurotoxic inflammation in Alzheimer's disease via granzyme K- PAR-1 signaling.](#)
 Terrabuio E, Pietronigro EC, Bani A, Della Bianca V, Laudanna C, Rossi B, Finotti G, Santos-Lima B, **Zenaro E**, Turano E, Tosadori G, Calgaro M, Vitulo N, Castellucci M, Cecconi D, Brandi J, Vareltzakis N, Mainieri F, Calore A, Angelini G, Bonetti B, Constantin G. *Nat Commun*. 2025 Sep 24;16(1):8372. doi: 10.1038/s41467-025-62405-6. Citations in Scopus: **3**.

MANUSCRIPT IN PREPARATION

1. *Pathogenic signature of $\gamma\delta$ T cells promotes neutrophil responses and neuropathological features of Alzheimer's disease.* **Zenaro E**, Santos-Lima BM, Pietronigro E, Slanzi A, Terrabuio E, Ghasemi S, Calgaro M, Risso D, Vitulo N, D'Ulivo B, Lopez N, Iaia S, Iannoto G, Turano E, Nagarajan R, Tosadori G, Della Bianca V, Dusi S, Arioli J, Rossi B, Castellucci M, Bonetti B, Constantin G. Manuscript close to submission.

PRESENTATIONS AS INVITED SPEAKER

- Presentation title: *Exploring the Role of the Neutrophils in Alzheimer's Disease Pathogenesis*. 5th World Aging and Rejuvenation Conference, July 17-18, 2023 Frankfurt (Germany).
- Presentation title: *Characterization of neutrophil-astrocyte interplay in experimental autoimmune encephalomyelitis*. Annual Scientific Congress Italian MS Society and its Foundation. May 26th 2022, Rome (Italy).
- Presentation title: *Systemic inflammation in Alzheimer's disease: a role for circulating neutrophils*. V Congress of Italian Society for Cytometric Cell Analysis, Immunology panel. May 21st 2021, Virtual edition.
- Presentation title: *How Polymorphonuclear Leukocytes (PMNs) can lead to a Chronic Disease: Alzheimer's*. Biomarkers in Rheumatic Diseases. 7th edition of GISEA International Meeting, Section of Biomarkers of inflammation. December 16th 2016, Rome (Italy).
- Presentation title: *Vascular Inflammation and Neutrophil Trafficking in Alzheimer's Disease*. More than neurons: toward a less neurocentric view of brain disorders. Session of neural stem cells, neuro-glia-vascular interactions, blood brain barrier and gut-brain axis. December 3rd 2016, Turin (Italy).
- Presentation title: *Neutrophils Induce Alzheimer's-Like Disease via LFA-1-Integrin*. The Joint 28th European Society for Microcirculation (ESM) 8th European Vascular Biology Organisation (EVBO) Meeting, Panel of endothelial activation and endothelial-leukocyte interaction. June 4th 2015, Pisa (Italy).

ORAL PRESENTATIONS AT MEETINGS

- *Tim-1 controls neutrophil trafficking and contributes to the induction of cognitive decline and neuropathological changes in animal models of Alzheimer's disease*. XXVI AINI Congress and 16th ESNI Course. June 2017, Venezia, Italy.
- *Neutrophils induce Alzheimer's-like disease via LFA-1-integrin and neutrophil extracellular traps*. IX National Conference of the Italian Society of Immunology, Clinical Immunology and Allergology - May 2014, Florence, Italy.

- *A role for neutrophils in the induction of Alzheimer's disease*. XXII AINI Congress of Italian Association of Neuroimmunology – September 2012, Catania, Italy.
- *Vascular inflammation and leukocyte trafficking in an experimental model of Alzheimer's disease*. Congress of Italian Association of Neuroimmunology – September 2011 Pollenzo (CN), Italy.
- *Two-photon microscopy studies of Th17 cell trafficking in an experimental model of epilepsy*. Congress of Italian Association of Neuroimmunology – September 2010, Stresa (VB), Italy.
- *Effects of Mycobacterium tuberculosis on DC apoptosis, maturation and oxygen free radicals production*. 21st Annual Meeting EMDS (European Macrophage & Dendritic cells Society) – September 2007, Innsbruck, Austria.
- *NADPH oxidase activity and zymosan uptake regulation in human dendritic cells*. 40th Annual Scientific Meeting of the European Society for Clinical Investigation. March 2006 – Prague, Czech Republic.
- *Espressione e regolazione della NADPH ossidasi in cellule dendritiche umane*. II Workshop SIICA, Settembre 2005 – Siena, Italy. Presentation awarded for the Scientific Value.
- *Bacterial biosensors based on à la carte regulators*. 63rd annual assembly of SSM Lugano, March 2004 – Lugano, Switzerland.

POSTER PRESENTATIONS

- **E. Zenaro**, B. Santos-Lima, E. Pietronigro, A. Slanzi, E. Terrabuio, A. Suli, N. Lopez, S. Ghasemi, B. D'Ulivo, G. Angelini, A. Bani, E. Turano, M. Calgaro, G. Tosadori, N. Vitulo, D. Risso, R. Nagarajan, V. Della Bianca, D. Bayulgen, B. Rossi, S. Iaia, G. Iannoto, S. Dusi, M. Castellucci, F. Calzetti, Y. Yoshikai, A. Hayday, B. Bonetti & G. Constantin. *$\gamma\delta$ T cells play a role in the pathogenesis of Alzheimer's Disease*. XIV SIICA National Congress, May 22/25, 2023, Verona, Italy. Selected poster that won the prize for the best poster presented at the congress.
- N. Lopez, A. Slanzi, B. Santos-Lima, E. Terrabuio, A. Bani, A. Suli, G. Angelini, E. Pietronigro, B. Rossi, **E. Zenaro** and G. Constantin. *$\gamma\delta$ T cell-mediated neurotoxicity in in vitro models of Alzheimer's disease*. Poster presentation at the XXIX AINI Congress, Verona (Italy), September 16-19, 2021.
- G. Angelini, B. Rossi, S. Dusi, N. Lopez, A. Bani, A. Slanzi, B. Santos-Lima, E. Terrabuio, A. Suli, E. Pietronigro, **E. Zenaro**, G. Constantin. *LFA-1 integrin controls microglia-neutrophil interaction in the central nervous system during experimental autoimmune encephalomyelitis*. Oral presentation at the XXIX AINI Congress, Verona 16-19 september 2021.
- G. Angelini, B. Rossi, S. Dusi, N. Lopez, A. Bani, A. Slanzi, B. Santos Lima, E. Terrabuio, A. Suli, E. Caterina Pietronigro, **E. Zenaro**, G. Constantin. *LFA-1 integrin controls microglia-neutrophil interaction in the central nervous system during experimental autoimmune encephalomyelitis*. Oral presentation at the 15th ISNI congress, Virtual edition 8-12 november 2021.
- E. Terrabuio, E. Pietronigro, E. Zenaro, B. Santos-Lima, A. Bani, A. Suli, B. Rossi, G. Angelini, V. Della Bianca, A. Poli, F. Di Norscia, N. Bragato, G. Constantin. *A role for CD8+ t cell dysregulation in the pathogenesis of Alzheimer's like disease*. Oral presentation at the XXX AINI Congress, Riccione (Italy), May 16-19, 2022.
- A. Bani, N. Lopez, E. Terrabuio, A. Slanzi, G. Angelini, B. Rossi, E. Pietronigro, A. Poli, A. Suli, B. M. dos Santos Lima, E. Zenaro, V. della Bianca, F. di Norscia, N. Bragato, G. Constantin. *Understanding neuroinflammation by studying immune cell interactions with central nervous system-resident cells*. Poster presentation at the XXX AINI Congress, Riccione (Italy), May 16-19, 2022.
- E. Terrabuio, E. Pietronigro, **E. Zenaro**, B. Santos-Lima, A. Bani, A. Suli, B. Rossi, G. Angelini, V. Della Bianca, A. Poli, F. Di Norscia, N. Bragato, G. Constantin. *Pathogenic immune profile of CD8+ t cells promotes memory decline and neuropathological hallmarks of Alzheimer's*

- disease. Oral presentation at the SIICA 2022 – XIII National Congress, September May 23-26, 2022, Naples (Italy).
- E. Terrabuio, E. Pietronigro, **E. Zenaro**, B. Santos-Lima, A. Bani, A. Suli, N. Vitulo, M. Calgaro, D. Risso, G. Tosadori, B. Rossi, G. Angelini, V. Della Bianca, A. Poli, F. Di Norscia, N. Bragato, G. Constantin. *Dramatic changes in the immunological brain landscape of Alzheimer's-like mice sustain disease progression*. Oral presentation at the 2022 BiTS Meeting, 27-29 June 2022, Verona (Italy).
 - B. Santos-Lima, **E. Zenaro**, A. Slanzi, E. Pietronigro, N. Lopez, E. Terrabuio, N. Vitulo, V. Della Bianca, G. Angelini, A. Bani, A. Suli, G. Constantin. *Intestinal dysbiosis promotes immune dysregulation in an animal model of Alzheimer's disease*. Poster presentation at the AAIC conference, July 26-30, 2021, Denver (USA).
 - B. Santos-Lima, **E. Zenaro**, A. Slanzi, E. Pietronigro, N. Lopez, E. Terrabuio, N. Vitulo, V. Della Bianca, G. Angelini, A. Bani, A. Suli, G. Constantin. *Intestinal dysbiosis promotes immune dysregulation in an animal model of Alzheimer's disease*. The 15th International Conference on Alzheimer's and Parkinson's Diseases, April 2021, Virtual edition.
 - J. Arioli, A. Slanzi, **E. Zenaro**, S. Dusi, E. Pietronigro, B. Rossi, N. Lopez, D. Gioco, G. Angelini, G. Constantin. *TIM-1 glycoprotein mediates neutrophil-dependent damage during brain neuroinflammation*. XXVIII AINI Congress, May 6-9 2019. Camogli (GE), Italy.
 - G. Iannoto, E. Terrabuio, **E. Zenaro**, S. Ghasemi, A. Slanzi, B. Dos Santos Lima, E. Pietronigro, V. Della Bianca, S. Iaia, R. Nagarajan, F. Paris, B. D'ulivo, G. Constantin Constantin. *CD4+ T cells infiltrate the brain and contribute to disease pathogenesis in mice with Alzheimer's-like disease through an $\alpha 4\beta 1$ integrin-dependent mechanism*. XXVIII AINI Congress, May 6-9 2019. Camogli (GE), Italy.
 - E. Terrabuio, G. Iannoto, **E. Zenaro**, S. Ghasemi, A. Slanzi, B. Dos Santos Lima, E. Pietronigro, V. Della Bianca, S. Iaia, R. Nagarajan, B. D'ulivo, F. Paris, G. Constantin. *CD8+ T cells contribute to memory impairment and neuropathological changes in transgenic mice with Alzheimer's-like disease*. XXVIII AINI Congress, May 6-9 2019. Camogli (GE), Italy.
 - J. Arioli, **E. Zenaro**, A. Slanzi, S. Angiari, E. Pietronigro, V. Della Bianca, Rajasekar Nagarajan, E. Terrabuio, B. M. Santos Lima, G. Constantin. *Inhibition of TIM-1 glycoprotein rescues memory and reduces neuropathological changes in Alzheimer's like disease*. AD/PD2019, 14th International Conference on Alzheimer's and Parkinson's Diseases, March 26-31, 2019. Lisbon, Portugal.
 - V. Della Bianca, R. Nagarajan, G. Iannoto, E. Terrabuio, A. Slanzi, **E. Zenaro**, S. Ghasemi, E. Pietronigro, B. M. Santos Lima, G. Constantin. *Calcium dobesilate inhibits neutrophil adhesion and improves memory in a mouse model of Alzheimer's disease*. AD/PD2019, 14th International Conference on Alzheimer's and Parkinson's Diseases, March 26-31, 2019. Lisbon, Portugal.
 - G. Iannoto, E. Terrabuio, A. Slanzi, **E. Zenaro**, S. Ghasemi, E. Pietronigro, V. Della Bianca, R. Nagarajan, B. M. Santos Lima, G. Constantin. *A role for T cells in the induction of memory deficit in mice with Alzheimer's-like disease*. AD/PD2019, 14th International Conference on Alzheimer's and Parkinson's Diseases, March 26-31, 2019. Lisbon, Portugal.
 - E. Pietronigro, **E. Zenaro**, S. Dusi, V. Della Bianca, A. Slanzi, R. Nagarajan, G. Iannoto, E. Terrabuio, S. Ghasemi, B. M. Santos Lima, G. Constantin. *Alpha-4-integrins mediates leukocyte trafficking and contribute to memory impairment and neuropathological changes in transgenic animals with Alzheimer's-like disease*. AD/PD2019, 14th International Conference on Alzheimer's and Parkinson's Diseases, March 26-31, 2019. Lisbon, Portugal.
 - A. Slanzi, **E. Zenaro**, E. Pietronigro, V. Della Bianca, E. Terrabuio, S. Iaia, R. Nagarajan, N. Lopez, S. Ghasemi, G. Constantin. *Blockade of TIM-1 glycoprotein has therapeutic effect in mice with Alzheimer's-like disease*. XXVII AINI congress, May 7-10, 2018. Trieste, Italy.
 - G. Iannoto, A. Slanzi, R. Nagarajan, V. Della Bianca, **E. Zenaro**, E. Pietronigro, E. Terrabuio, S. Iaia, N. Lopez, S. Ghasemi, G. Constantin. *A role for T cells in the induction of memory deficit in mice with Alzheimer's-like disease*. XXVII AINI congress, May 7-10, 2018. Trieste, Italy.

- **Zenaro E**, Piacentino G, Pietronigro E, Della Bianca V, Carlucci T, Dusi S, Nagarajan R, Iannoto G, Bonani M, Saatchi T, Constantin G. *Blockade of alpha4 integrins ameliorates cognitive dysfunction and neuropathological changes in transgenic animals with Alzheimer's-like disease*. 13th International Conference on Alzheimer's and Parkinson's Diseases. April 2017, Vienna, (Austria).
- Pietronigro E, Della Bianca V, Piacentino G, **Zenaro E**, Carlucci T, Dusi S, Nagarajan R, Iannoto G, Bonani M, Saatchi T, Constantin G. *LFA-1 integrin mediates neutrophil trafficking in the brain in mouse models of Alzheimer's disease and contributes to disease pathology*. 13th International Conference on Alzheimer's and Parkinson's Diseases. April 2017, Vienna, (Austria).
- Constantin G, Della Bianca V, Pietronigro E, **Zenaro E**, Nagarajan R, Toffali L, Mirenda M, Bauer J. *Treatment with calcium dobesilate reduces neuroinflammation and improves cognition in a mouse model of Alzheimer's disease*. XXVI AINI Congress and 16th ESNI Course. June 2017, Venezia, (Italy).
- Pietronigro E, Della Bianca V, **Zenaro E**, Nagarajan R, Thompson P, Constantin G. *Inhibition of protein arginine deiminases improves cognition and reduces neuropathological changes in mouse models of Alzheimer's disease*. XXVI AINI Congress and 16th ESNI Course. June 2017, Venezia, (Italy).
- **Zenaro E**, Pietronigro E, Della Bianca V, Piacentino G, Constantin G. *Blockade of neutrophil adhesion has therapeutic effect in animal models of Alzheimer's disease*. Annual Meeting of the Society for Leukocyte Biology and Neutro 2016, "Inflammation, Immunity and Cancer: Neutrophils and Other Leukocytes". September 2016, Verona (Italy).
- Piacentino G, **Zenaro E**, Pietronigro E, Della Bianca V, Carlucci T, Dusi S, Constantin G. *Neutrophils infiltrate the brain and induce cognitive deficit in animal models of Alzheimer's disease via alpha4 integrins*. XXV AINI Congress. May 2016, Lecce, (Italy).
- **Zenaro E**, Pietronigro E, Della Bianca V, Piacentino G, Marongiu L, Turano E, Bonetti B, Constantin G. *Neutrophils induce Alzheimer's-like disease via LFA-1-integrin and neutrophil extracellular traps*. FENS Forum, July 2014, Milan (Italy).
- **Zenaro, E.** Pietronigro, V. della Bianca, S. Budui, E. Losso, S. Angiari, B. Rossi, S. Gaspari, G. Berton, G. Constantin. *A role for vascular inflammation and leukocyte trafficking in the pathogenesis of alzheimer-like disease*. International Symposium on "Biology and Translational Aspects of Neurodegeneration" – March 12-14, 2012 Venice – Italy.
- **Zenaro E**, Budui S, Pietronigro E, Della Bianca V, Rossi B, Angiari S, Losso E, Donnarumma T, Constantin G. *Vascular inflammation and leukocyte trafficking in an experimental model of Alzheimer's disease*. Alzheimer's Association International Conference on Alzheimer Disease — July 16 - 21, 2011– Paris, France.
- **Zenaro E**, Budui S, Pietronigro E, Della Bianca V, Rossi B, Angiari S, Losso E, Donnarumma T, Constantin G. *Vascular inflammation and leukocyte trafficking in an experimental model of alzheimer's disease*. Molecular Mechanisms of Neurodegeneration (5th Meeting) — May 13-15, 2011 – Milan, Italy.
- S. Angiari, B. Rossi, L. Piccio, B.H. Zinselmeyer, S.D. Bach, S. Budui, **E. Zenaro**, A. H. Cross, M. J. Miller and G. Constantin. *P-selectin glycoprotein ligand-1 (PSGL-1) controls suppressor activity by CD4+CD25+FOCP3+ regulatory T cells*. 10th International congress of neuroimmunology (ISNI) – October 26- 30 2010 – Sitges, Barcelona, Spain.
- **Zenaro E.**, Donini M. e Dusi S. Department of Pathology, Section of General Pathology, University of Verona, Verona, Italy. *Dectin-1 engagement by M. tuberculosis enables human DC to induce Th1/Th17 response*. International congress on cytokines in immune regulation and disease. Palazzo dei Congressi, Auditorium, December 4-6, 2008. Florence – Italy.
- **Zenaro E.**, Donini M. e Dusi S. Department of Pathology, Section of General Pathology, University of Verona, Verona, Italy. *Induction of Th1/Th17 immune response by Mycobacterium tuberculosis: role of cytokines produced by human dendritic cells and pathogen recognition receptors involved*. 22nd Annual Meeting EMDS - Diversity and Plasticity of the Innate Immune

Response. Brescia (Italy), School of Medicine, University of Brescia - September 18th-20th, 2008 – Brescia, Italy.

- **E. Zenaro**, M. Donini, M. Marconi, S. Dusi. Department of Pathology, Section of General Pathology, University of Verona, Verona, Italy. *Interferon alpha and gamma improve NADPH oxidase-mediated Candida albicans killing by human dendritic cells: receptor mechanisms of NADPH oxidase regulation by yeasts*. Poster presentation. Poster Session 1 07/09/2006, PA-1225. 1st Joint Meeting of European National Societies of Immunology - 16th European Congress of Immunology. September 6-9, 2006 – Paris, France.
- **E. Zenaro**, A. Baehler, D. Tropel and J.R. van der Meer. Department of Fundamental Microbiology - Bâtiment de Biologie, University of Lausanne. *Bacterial biosensors based on à la carte regulators*. Poster presentation P129. Exploring prokaryotic diversity – The Operon, EMBL – April 22-26, 2004 - Heidelberg, Germany.

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Location and Date: Verona, Italy, January 27, 2026.

The declarant,

ELENA ZENARO

