CURRICULUM VITAE

Antonietta Vilella
[redacted] – VLLNNT86P67E977V – ITALY

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ORCID ID: https://orcid.org/0000-0003-3820-0115 27/09/1986

EDUCATION

2014 - PhD in Neuroscience, XXVI cycle, awarded on March 24, 2014 at University of Modena and Reggio Emilia, scored as "excellent". Research Thesis: A new strategy to fool the blood-brain barrier: in vivo study of uptake, distribution and transport of CNS-targeted nanoparticles within the brain. Supervisor: Prof. Michele Zoli; Co-supervisor: Dr. Giovanni Tosi

2010 - Master's Degree in Medical, Pharmaceutical and Veterinary Biotechnologies (LM-9), awarded on October 25, 2010 at University of Parma, score 110/110. Research Thesis: Selective IL10 overexpression in astrocytes modulates microglial reactivity associated to perforant pathway transection. Supervisor: Prof. Bernardo Castellano, Autonomous University of Barcelona, ERASMUS program.

2009 - Bachelor's Degree in Biotechnologies, awarded on February 25, 2009 at University of Modena and Reggio Emilia. Research Thesis: Phenotypic characterization of Pseudomonas strains isolated from water. Supervisor: Prof. Moreno Bondi

High school Diploma (2000-2005), Liceo scientifico "M. Allegretti" Vignola, Modena (IT).

CURRENT POSITION

From 2023 Research Assistant Professor (Legge 240/10, art. 24, lett. B, SSD BIO/09 – Physiology) University of Modena and Reggio Emilia, Italy
Main research themes:
1. "Identification and functional characterization of extracellular vesicles involved in the pathophysiology of Alzheimer's Disease: focus on miRNAs as inflammatory modulators and biomarkers"
2. "Neuron-microglia communication in Alzheimer's disease: focus on amyloid isotypes and their interaction with alpha7 nicotinic receptor during prodromal phases of pathology in mice"

PREVIOUS POSITIONS

2018 - 2023 Research Assistant Professor (Legge 240/10, art. 24, lett. A, SSD BIO/09 – Physiology) University of Modena and Reggio Emilia, Italy
Research themes:

i. Brain neuroplasticity in different animal models of Alzheimer's Disease: evaluation of the effects of neurotrophic drugs and nanomedicines.
ii. Pathophysiology of nicotinic acetylcholine receptors with particular attention to the molecular and cellular mechanisms of nicotine addiction and neuroprotection.
iii. Neuro-histological, neurochemical and behavioral effects of transitory inhibition of microRNAs during brain post-natal development.
iv. Functional expression studies of histone variant H3.3 in neuroplasticity.

2015 – 2017 Post-Doctoral fellow in Neuroscience University of Modena and Reggio Emilia, Italy

2017: Post-Doctoral fellow in Neuroscience at the University of Modena and Reggio Emilia. Research themes:

i) MicroRNAs and neuronal plasticity: in vivo behavioral effects of transitory inhibition of miR-101 and miR-218 in the hippocampus during post-natal development; supervisor: Prof. Michele Zoli in collaboration with Dr. Giordano Lippi, The Scripps Research Institute (TSRI), La Jolla, California.
ii) Role of clusterin and PCSK in Alzheimer's Disease pathophysiology; supervisor: Prof. Michele Zoli in collaboration with Prof. Federica Rizzi (University of Parma) and Prof. Daniela Giuliani (University of Modena and Reggio Emilia).
iii) Brain-Delivery of Zinc-loaded nanoparticles as potential treatment for Alzheimer's Disease: focus on plaques loading and behavioral deficits; supervisor: Prof. Michele Zoli in collaboration with Dr. Andreas Grabrucker, University of Limerick, Ireland.

2016: Post-Doctoral fellowship in Neuroscience at the University of Modena and Reggio Emilia. Research theme: Behavioral consequences of alpha6 nicotinic receptor subunit silencing in the rat brain: focus on motor dysfunction and nicotine addiction. Supervisors: Prof. Michele Zoli in collaboration with Dr. Cecilia Gotti, Consiglio Nazionale delle Ricerche (CNR), Institute of Neuroscience, Milan.

2015: Post-Doctoral fellowship in Neuroscience at the University of Modena and Reggio Emilia. Research theme: Development of AAV- and lentiviral-shRNA vectors for alpha6 mRNA silencing in specific subpopulations of neuronal cells in vivo; definition of the infectivity and toxicity rate of dopaminergic neuron in the rat midbrain by specific morphological techniques; characterization of alpha6 mRNA silencing efficacy by neurochemical and behavioral techniques. Supervisors: Prof. Michele Zoli in collaboration with Dr. Anna Salvetti and Dr. Laurent Schaeffer, École normale supérieure de Lyon, France.

2014: PhD student in Neuroscience, XXVI cycle.
Research themes: study of in vivo uptake, cellular distribution and delivery of nanoparticles in the Central Nervous System; Study of the Phospho(Ser10) Acetyl(Lys14)-Histone H3 (PAcH3) modification, a marker of gene activation, in two models of neurodegeneration: Pilocarpine induced epilepsy and LPS-induced neuroinflammation in rats.
Aim: (i) define the capability of NPs to cross the Blood Brain Barrier (BBB); brain areas and neural cell-specific NP accumulation; characterization of intracellular and intercellular mechanism of NP transport. (ii) define the PAcH3 activation in a time- and brain area-dependent manner; identification of specific neural PAcH3-positive cells (neurons, astrocytes, microglia).

AWARDS
2020 National associate professor qualification (ASN) in Physiology.
2017 Ranked among the top neuroscientists within 5 years after receiving doctoral degree in the United Kingdom, Germany and Italy (http://www.topitalianscientists.org).
2016 Award for scientific production by the University of Modena and Reggio Emilia as part of the CRUI initiative “Per una nuova primavera delle Università”.
2015 Travel grant for XVI National SINS Congress in Cagliari, October 8-11, 2015" funded by the Italian Society of Neuroscience (SINS).
2014 Travel grant for 9th FENS Forum in Milan, July 5-9, 2014" funded by SINS.
2010 Mobility scholarship funded by the "LPP (Lifelong Learning Program) – Erasmus.

CONGRESSES
XX Congress of the Italian Society for Neuroscience, symposium organizer
XVI Congress of the Italian Society for Neuroscience, poster presentation
9th FENS Forum of Neuroscience, poster presentation
XV Congress of the Italian Society of Neuroscience, poster presentation
8th FENS Forum of Neuroscience, poster presentation
V Reunión de la Red Glia Española, poster presentation

PERIODS ABROAD
January 2024, December 2019, May 2018, November-December 2017: Ecole normale supérieure de Lyon, “NeuroMyoGène” Institute; Lyon, FR. Tutor: Laurent Schaeffer. Behavioral and expression experiments in H3.3B transgenic mice.
June - July 2012: Ecole normale supérieure de Lyon, “Centre International de Recherche en Infectiologie”; Lione, FR. Tutor: Dr. Anna Salvetti. Production of adenoviral vectors for in vivo studies.
March - October 2010: Autonomous University of Barcelona, “Histology unit”; Barcelona, SP.
Tutor: Prof. Bernardo Castellano. Selective IL10 overexpression in astrocytes modulates microglial reactivity associated to perforant pathway transection.

CAREER BREAKS
Maternity leave: April 2018 – September 2018
Maternity leave: February 2016 – July 2016

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS
2014 – 2026 scientific tutor of seven PhD students in Neuroscience and 26 Master Students.
Department of Biomedical, Metabolic and Neural Sciences, University of Modena and Reggio Emilia, IT

TEACHING ACTIVITIES
From 2023 Molecular and Integrative Physiology [BIOS-0012] – Master’s Degree Program in Biosciences – track in Cellular and Molecular Biology for Biomedical Research, University of Modena and Reggio Emilia, IT.
From 2022 Teaching position in Physiology [FCPC270-07] - Techniques of cardiovascular physiopathology and cardiovascular perfusion, University of Modena and Reggio Emilia, IT
From 2022 Teaching position in Physiology [RAD-270-04] - Medical, imaging and radiotherapy techniques, University of Modena and Reggio Emilia, IT
From 2022 Teaching position in Physiology [TLB-270-31] - Techniques of biomedical laboratory, University of Modena and Reggio Emilia, IT
From 2020 Teaching position in Physiology [SB-24] – Bachelor's Degree in Biological Sciences, University of Modena and Reggio Emilia, IT
From 2018 Teaching position in Cellular Physiology [B-11] – Bachelor's Degree in Biotechnologies, University of Modena and Reggio Emilia, IT

INSTITUTIONAL RESPONSIBILITIES
From 2023 Member of the Quality Committee of the PhD school in Neuroscience, University of Modena and Reggio Emilia, IT;
From 2020 Member of the Research Committee of the Department of Biomedical, Metabolic and Neural Sciences, University of Modena and Reggio Emilia, IT;
2019: Member of the PhD school in Neuroscience Committee, University of Modena and Reggio Emilia, IT.

MEMBER OF DEGREE EXAMINATION COMMITTEES
Industrial Biotechnology:
July 21, 2023, 2:30 PM, Building 51, Via Campi 103 – Room 128 pp (MO-51-01-028)

Medical Biotechnology:
April 14, 2023, 9:30 AM, Faculty of Engineering, Via Vivarelli 10/1 – Room P1.2 (former Aula FA 1B – Magna)
Biotechnology:
October 11, 2024, 2:00 PM, Building 51, Via Campi 103 – Room 130 pp (MO-51-00-016)
July 17, 2024, 9:30 AM, Building 51, Via Campi 103 – Room 128 pp (MO-51-01-028)
April 11, 2024, 2:30 PM, Building 51, Via Campi 103 – Room 113 pp (MO-51-01-019)
Biological Sciences and Biosciences:
October 28, 2025, 2:00 PM, Building 51, Via Campi 103 – Room 113 pp (MO-51-01-019); Degree Examination Committee in Biological Sciences and Biosciences
June 14, 2023, 9:30 AM, Building 51, Via Campi 103 – Room 128 pp (MO-51-01-028)

MEMBER OF RESEARCH FELLOWSHIP SELECTION COMMITTEES
2024-adrj27 – February 19, 2024, Prot. No. 57624 – Rep. No. 342/2024 – Tutor: Prof. Michele Zoli – Application deadline: March 6, 2024
2024-adrj197 – July 12, 2024, Prot. No. 191257 – Rep. No. 1103/2024 – Tutor: Prof. Serena Carra – Application deadline: July 30, 2024
2024-adrs441 – December 16, 2024, Prot. No. 336975 – Rep. No. 1972/2024 – Tutor: Prof. Daniela Giuliani – Application deadline: February 3, 2025
2023-adrj53 – Junior Research Fellowship Call of May 18, 2023, Prot. No. 116901 – Rep. No. 773/2023 – Tutor: Prof. Jonathan Mapelli – Application deadline: June 5, 2023
2023-adrj367 – Call (D.D.) of December 22, 2023, Prot. No. 308470 – Rep. No. 787/2023 – Tutor: Dr. Antonietta Vilella – Application deadline: January 19, 2024
2023-adrj363 – Call (D.D.) of December 22, 2023, Prot. No. 308599 – Rep. No. 796/2023 – Tutor: Prof. Daniela Giuliani – Application deadline: January 30, 2024

PUBLIC ENGAGEMENT ACTIVITIES
2026: “Dal micro al macro: trasformiamo l’esperienza in conoscenza attraverso gli strumenti della scienza” in preparation. Fourth edition.
2025: “Dal micro al macro: trasformiamo l’esperienza in conoscenza attraverso gli strumenti della scienza” May 19 - 22, 2025, UNIMORE (Scientific Coordinator and Activity Coordinator). Third edition.
2024: “Dal micro al macro: trasformiamo l’esperienza in conoscenza attraverso gli strumenti della scienza” May 15 - 16, 2024, UNIMORE (Scientific Coordinator and Activity Coordinator). Second edition.
2023: “Dal micro al macro: trasformiamo l’esperienza in conoscenza attraverso gli strumenti della scienza” April 17 - 19, 2023, UNIMORE (Scientific Coordinator and Activity Coordinator).

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

From 2026 Member of Società Italiana di Fisiologia, SIF
From 2019 Member of Società Italiana di Farmacologia, SIF
From 2012 Member of Società Italiana di Neuroscienze, SINS

NATIONAL COLLABORATIONS
Prof. Francesca Zimetti: “PCSK9 role in Alzheimer’s Disease”; UNIPR.
Prof. Maria Amalia Di Castro: “a7nAchRs as regulators of neuron-microglia cross-talk in AD pathophysiology”; Sapienza Università di Roma.
Dr. Francesca Massenzio: “Identification and functional characterization of extracellular vesicles involved in the pathophysiology of Alzheimer’s Disease: focus on miRNAs as inflammatory modulators and biomarkers”; UNIBO.
Prof. Michele Zoli and Dr. Cecilia Gotti: “Pathophysiology of neuronal nicotinic receptor subtypes for acetylcholine with particular attention to the molecular and cellular mechanisms of nicotine addiction and neuroprotection”; UNIMORE and National Research Council (CNR, Milan).
Prof. Daniela Giuliani and Prof. Giovanni Tosi: “Brain neuroplasticity in animal models of neurodegenerative diseases: evaluation of the effects of neurotrophic drugs and nanomedicines”; UNIMORE.
Prof. Federica Rizzi: “Role of clusterin in alpha synuclein aggregation in a mouse model of Parkinson's disease”; UNIPR.

INTERNATIONAL COLLABORATIONS
Dr. Giordano Lippi, The Scripps Research Institute (TSRI), La Jolla.
Prof. Anna Antoniou, University of Vienna.
Prof. Laurent Schaeffer, University of Lyon.
Prof. Andreas Grabrucker, University of Limerick.
Prof. Michele Vendruscolo, University of Cambridge, Centre for Misfolding Diseases
Prof. Bernardo Castellano, Autonomous University of Barcelona.

RESEARCH GRANT
2024-2026 “Synergistic effects of molecules in animal models of chronic pain”, PI: Antonietta Vilella Chiesi (Chiesi S.p.A - Eur 190.000,00)

2023-2025 PRIN “Identification and functional characterization of extracellular vesicles involved in the pathophysiology of Alzheimer’s Disease: focus on miRNAs as inflammatory modulators and biomarkers”, PI: Antonietta Vilella (Unimore, Eur 111.500,00)

2023-2024: Fondo di Ateneo (FAR) per la ricerca dipartimentale anno 2023, “Caratterizzazione fisiopatologica e farmacologica della motilità e del fenotipo microgliale nel modello murino di Alzheimer 5XFAD”, PI: Antonietta Vilella.

2022-2023: FAR per la ricerca dipartimentale anno 2022, “Ruolo dei recettori nicotinici per l’acetilcolina contenenti la subunità α4 sulla neuropatologia correlata ad amiloide nei topi Tg2576”, PI: Antonietta Vilella (Eur 7.000,00)

2021-2022: FAR per la ricerca dipartimentale anno 2021, “Interazioni gene x ambiente nella patogenesi dell’autismo: determinazione degli effetti comportamentali indotti da somministrazione acuta e cronica di p-cresolo in modelli murini divergenti per comportamenti simil-autistici”, PI: Antonietta Vilella. (Eur 6.000,00)

2021-2023: FAR 2020 University of Modena "Targeting the lipid and protein homeostasis systems with Trodusquemine to fight Alzheimer’s Disease", PI: Serena Carra; CoPI: Antonietta Vilella (Eur 40.000,00)

2020: FAR impulso 2020 (PI, Eur 2.000,00)

SCIENTIFIC ACTIVITY

EXPERTISE
Management of animal colonies: mating, breeding and maintenance of genetically modified (GM) rodent colonies; environmental enrichment and handling of wild type and GM rodents; application of ID ear-piercing and tissue collection for genotyping.
Behavioral analysis of rodents: Assessment of stress, anxiety and cognitive functions using established paradigms including Open Field, Elevated Plus Maze, Y Maze, Fear Conditioning, Morris Water Maze, Marble Burying test, Novel Object Recognition, Environmental Enrichment protocols, social interaction, resident–intruder tests, and evaluation of repetitive behaviors/stereotypies.
Anatomy - morphological techniques: Brain fixation via intracardiac perfusion and histological processing; tissue sectioning using cryostat, cryotome and vibratome; non-radioactive in situ hybridization; immunohistochemistry for optical and fluorescence microscopy; double and triple immunostaining; confocal microscopy.
Molecular biology and epigenetics techniques: extraction and characterization of nucleic acids (DNA and RNA); DNA cloning; construction of specific primers for RNA and DNA; DNA electrophoresis; analysis by PCR; RT-PCR; q-PCR; chromatin immunoprecipitation (Chip).
Protein expression analysis: extraction of cytosolic and nuclear proteins from brain tissue; protein array methods; ELISA; Western Blotting.
Production and characterization of viral vectors: cloning, transfection and production of plasmids and AAV2 viral vectors; purification and titration by Cscl gradient.
Stereotaxic procedures: injection of drugs and shRNA vectors into specific regions of the rodent brain through the use of stereotaxic frame; microdissection of specific rodent brain areas; cranial window implantation for in vivo live imaging by two-photon microscopy.
Extracellular vesicle isolation and molecular characterization: Isolation of extracellular vesicles from specific brain regions using differential centrifugation and/or validated purification methods; quantification and size distribution analysis by nanoparticle tracking analysis (NTA); extraction of EV-associated RNA and proteins; microRNA profiling using TaqMan assays; and proteomic characterization of EV cargo.
Exposure to cigarette smoke and e-cigarette vapor: Experience in controlled exposure paradigms to nicotine-containing cigarette smoke and electronic cigarette vapor using dedicated inhalation systems; optimization of exposure protocols (dose, duration, and frequency); and handling of animals during chronic exposure experiments to ensure reproducibility and welfare compliance.

SCIENTIC PRODUCTION
Author of 45 articles published in indexed international journals, 3 book chapters, 1 article in Italian journal.
1361 citazioni totali, indice H pari a 22 (Scopus).

BOOK CHAPTERS/ARTICLE IN ITALIAN JOURNAL
- **A.Vilella**, M.Zoli. Invecchiamento e malattie neurodegenerative. In: Fisiologia umana. Poletto Editore, 2022;
- **A.Vilella*,** C.A.De Benedictis*, E.Daini*, A.M.Grabrucker. Targeting Metals Homeostasis as a Therapeutic Strategy for Alzheimer’s Disease. In: Alzheimer’s Disease: Drug Discovery, Exon Publications; 2020 Dec 18. *equal contribution;
- C.A.De Benedictis, **A.Vilella**, A.M.Grabrucker. The Role of Trace Metals in Alzheimer’s Disease. In: Wisniewski T, editor. Alzheimer’s Disease [Internet]. Brisbane (AU): Codon Publications; 2019 Dec 20. Chapter 6;
- **A.Vilella**, L.A.Pini. Placebo effect between evidence and myths: How to distinguish true from fake news. Rivista sperimentale di freniatria – Italian Journal of Mental Health; 2019/1 pp. 131-146.

PEER REWIEVED

2026 W.Liao, K.Antonioni, F.Silvestri, M.Piemontese, M.Bodria, E.Daini, A.M.Persico, M.Zoli, A.M.Grabrucker, **A.Vilella**. Unveiling the molecular mechanism of intestinal metabolite para-cresol in modulating neuroinflammation and synaptic dysfunction: implications for autism spectrum disorder. Journal of Neurochemistry, 2026. https://doi.org/10.1111/jnc.70457

2026 E. Daini, M. Piemontese, M.Bodria, M.Zoli, **A.Vilella**. Reference gene variability across age and sex in 5XFAD mice highlights normalization challenges in Alzheimer’s models. Scientific Reports, 2026. DOI: 10.1038/s41598-026-38346-5

2026 M.Corsi, T.DiGiulio, E.Vandini, M.I.Asif, EDaini, **A.Vilella**, G.Leo, A.Ottani, C.Malitesta, D.Giuliani, E.Mazzotta, G.Barillaro. Multiparametric Bioresorbable Sensor for Doxorubicin Detection via Molecularly Imprinted Synthetic Receptors. Advanced Science, 2026. DOI: 10.1002/advs.202524369

2025 F.Pires, E.Daini, E.Vandini, D.Giuliani, **A.Vilella**, F.C.Ferreira, J.Morgado. Development of a Biodegradable Green Emitter Chitosan-Based OLED for Implantable Biomedical Devices. ACS Applied Materials and InterfacesOpen source preview, 2025, 17(26), pp. 37510–37522.

2025 S.Bartoletti, F.Raimondi, B.Casadei Garofani, E.Ren, F.Ciarpella, A.Capodiferro, G.Palazzolo, **A.Vilella,** G. Leo, M.Zoli, I.Decimo, G.Curia. Two minimally invasive strategies to implant guide cannulas for multiple injections in deep brain areas. Methods. 2025 Jun:238:27-39. doi: 10.1016/j.ymeth.2025.03.005. Epub 2025 Mar 8.

2025 M.Corsi, E.Maurina, S.Surdo, E.Vandini, E.Daini, **A.Vilella**, G.Leo, M.Farshchian, G.Grisendi, G.Golinelli, M.Dominici, G.Bocci, D.Giuliani, G.Barillaro. In vivo and in situ monitoring of doxorubicin pharmacokinetics with an implantable bioresorbable optical sensor. Sci Adv. 2025 Apr 18;11(16):eads0265. doi: 10.1126/sciadv.ads0265. Epub 2025 Apr 16.

2025 E.De Felice, B.C.Bobotis, G.Rigillo, M.Khakpour, E.G.Andrade, C.Benatti, **A.Vilella**, F.Tascedda, C.Limatola, M.E.Tremblay, S.Alboni, L.Maggi (2025). Female mice exhibit similar long-term plasticity and microglial properties between the dorsal and ventral hippocampal poles. BRAIN BEHAVIOR AND IMMUNITY, vol. 124, p. 192-204, ISSN: 0889-1591, doi: 10.1016/j.bbi.2024.11.034

2025 L.Bertarini, F.Imbeni, **A.Vilella**, S.Alboni, F.Pellati. (2025). Targeted Metabolomics for the Analysis of p-Cresol in Mouse Brain: Impact of Biological Sex and Strain. ACS CHEMICAL NEUROSCIENCE, p. 1-10, ISSN: 1948-7193, doi: 10.1021/acschemneuro.4c00698

2024 L.Giannessi, M.G.Lupo, I.Rossi, M.G.Martina, **A.Vilella**, M.Bodria, D.Giuliani, F.Zimetti, I.Zanotti, F.Potì, F.Bernini, N.Ferri, M.Radi. Identification of 4-amino-2-Pyridones as new potent PCSK9 inhibitors: From phenotypic hit discovery to in vivo tolerability Eur J Med Chem 2024 Feb 5:265:116063. doi: 10.1016/j.ejmech.2023.116063.

2024 **A.Vilella*,** M.Bodria, B.Papotti, I.Zanotti, F.Zimetti, G.Remaggi, L.Elviri, F.Potì, N.Ferri, M.G.Lupo, G.Panighel, E.Daini, E.Vandini, M.Zoli, D.Giuliani, F.Bernini. PCSK9 ablation attenuates Aβ pathology, neuroinflammation and cognitive dysfunctions in 5XFAD mice. °first name and corresponding author. Brain, behavior and Immunity 2024, Jan; 115:517-534. doi: 10.1016/j.bbi.2023.11.008. Epub 2023 Nov 13. ***First and corresponding author**

2023 S.R.Taylor, M.Kobayashi*, **A.Vilella*,** D.Tiwari*, N.Zolboot*,C.Girgiss, Y.Abaci, G.C.Bellenchi, R.B.Darnell, C.Gross, M.Zoli, D.K.Berg, G.Lippi. MicroRNA-218 instructs proper assembly of hippocampal networks. *equal contribution. eLife 2023, Oct 20; 12:e82729. doi: 10.7554/eLife.82729. ***Co-second author**

2023 S.Alboni, V.Secco, B.Papotti, **A.Vilella**, M.P.Adorni, F.Zimetti, L.Schaeffer, F.Tascedda, M.Zoli, P.Leblanc, E.Villa. Hydroxypropyl-β-Cyclodextrin depletes membrane cholesterol and inhibits SARS-COV-2 entry into HEK293T-ACEhi cells. Pathogens, Sec. Viral Pathogens

2023 **A.Vilella°**, B.Romoli, M.Bodria, S.Pons, U.Maskos, M.Zoli. Evidence for a protective effect of the loss of α4-containing nicotinic acetylcholine receptors on Aβ-related neuropathology in Tg2576 mice. Front. Neuroscience. Volume 17:(2023), doi:10.3389/fnins.2023.1097857 **°Corresponding author.**

2023 E.Daini, E.Vandini, M.Bodria, W.Liao, C.Baraldi, V.Secco, A.Ottani, M.Zoli, D.Giuliani, **A.Vilella°**. Melanocortin receptor agonist NDP-α-MSH improves cognitive deficits and microgliosis but not amyloidosis in advanced stages of AD progression in 5XFAD and 3xTg mice. Front. Immunol., Sec. Inflammation. Volume 13:(2022), doi.org/10.3389/fimmu.2022.1082036. **°Corresponding author.**

2022 B.Papotti, M.P.Adorni, C.Marchi, F.Zimetti, N.Ronda, G.Panighel, M.G.Lupo, **A.Vilella**, D.Giuliani, N.Ferri, F.Bernini. PCSK9 Affects Astrocyte Cholesterol Metabolism and Reduces Neuron Cholesterol Supplying In Vitro: Potential Implications in Alzheimer's Disease. Int J Mol Sci. 2022 Oct 13;23(20):12192. doi: 10.3390/ijms232012192.

2022 M.Corsi, A.Paghi, S.Mariani, G.Golinelli, A.Debrassi, G.Egri, G.Leo, E.Vandini, **A.Vilella**, L.Dähne, D.Giuliani, G.Barillaro. Bioresorbable Nanostructured Chemical Sensor for Monitoring of pH Level In Vivo. Advances Science. 2022 Aug;9(22):e2202062.

2021 M.Runfola, M.Perni, X.Yang, M.Marchese, A.Bacci, S.Mero, F.M.Santorelli, B.Polini, G.Chiellini, D. Giuliani, **A.Vilella**, M.Bodria, E.Daini, E.Vandini, S.Rudge, S.Gul, M.O.J.Wakelam, M.Vendruscolo, S. Rapposelli. Identification of a Thyroid Hormone Derivative as a Pleiotropic Agent for the Treatment of Alzheimer's Disease. Pharmaceuticals. 2021 Dec 19;14(12):1330.

2021 E.Daini, S.Hagmeyer, C.A.De Benedictis, J.S.Cristóvão, M.Bodria, A.M.Ross, A.Raab, T.M.Boeckers, J.Feldmann, C.M.Gomes, M.Zoli, **A.Vilella#,** A.M.Grabrucker#. S100B dysregulation during brain development affects synaptic SHANK protein networks via alteration of zinc homeostasis. Transl Psychiatry. 2021 Nov 5;11(1):562. **# equal contribution.**

2021 E.Daini, V.Secco, W.Liao, M.Zoli, **A.Vilella°**. A regional and cellular analysis of the early intracellular and extracellular accumulation of Abeta in the brain of 5XFAD mice. Neurosci Lett. 2021;754:135869. **°Corresponding author.**

2021 B.Detraux, **A.Vilella**, A.De Groote, S.N.Schiffmann, M.Zoli, A.de Kerchove d'Exaerde. Dorsal and ventral striatal neuronal subpopulations differentially disrupt male mouse copulatory behavior. Eur Neuropsychopharmacol. 2021;49:23-37.

2020 G.P.Hoyos-Ceballos, B.Ruozi, I.Ottonelli, F.Da Ros, M.A.Vandelli, F.Forni , E.Daini, **A.Vilella**, M. Zoli, G.Tosi, J.T.Duskey and B.L. López-Osorio. PLGA-PEG-ANG-2 Nanoparticles for Blood–Brain Barrier Crossing: Proof-of-Concept Study. Pharmaceutics 2020, 12(1),72.

2020 J.T.Duskey, I.Ottonelli, F.Da Ros, **A.Vilella**, M.Zoli, S.Kovachka, F.Spyrakis, M.A.Vandelli, G.Tosi, B.Ruozi. Novel peptide-conjugated nanomedicines for brain targeting: In vivo evidence. Nanomedicine. Aug;28:102226.

2019 S.Hagmeyer, M.A.Romão, J.S.Cristóvão, **A.Vilella**, M.Zoli, C.M.Gomes, A.M.Grabrucker. Distribution and Relative Abundance of S100 Proteins in the Brain of the APP23 Alzheimer's Disease Model Mice. Front Neurosci, 13, 640.

2018 G.Rigillo*, **A.Vilella***, C.Benatti, L.Shaeffer, N.Brunello, J.M.C. Blom, M.Zoli, F.Tascedda. LPS-induced histone H3 phospho(Ser10)-acetylation(Lys14) regulates neuronal and microglial neuroinflammatory response. Brain, Behavior, and Immunity. 2018 Nov;74:277-290. ***equal contribution.**

2018 C.Citti, F.Palazzoli, M.Licata, **A.Vilella**, G.Leo, M.Zoli, M. A.Vandelli, F.Forni, B.Pacchetti, G.Cannazza. Untargeted rat brain metabolomics after oral administration of a single high dose of cannabidiol. J Pharm Biomed Anal. 161:1-11.

2018 F.Palazzoli, C.Citti, M.Licata, **A.Vilella**, L.Manca, M.Zoli, M.A.Vandelli, F.Forni, G.Cannazza. Development of a simple and sensitive liquid chromatography triple quadrupole mass spectrometry (LC-MS/MS) method for the determination of cannabidiol (CBD), Δ9-tetrahydrocannabinol (THC) and its metabolites in rat whole blood after oral administration of a single high dose of CBD. J Pharm Biomed Anal. 150:25-32.

2018 **A.Vilella*,** D.Belletti*, A.K.Sauer, S.Hagmeyer, T.Sarowar, M.Masoni, N.Stasiak, J.J.E.Mulvihill, B.Ruozi, F.Forni, M.A.Vandelli, G.Tosi, M.Zoli. Reduced plaque size and inflammation in the APP23 mouse model for Alzheimer's disease after chronic application of polymeric nanoparticles for CNS targeted zinc delivery. J Trace Ele Med Bio. 2018;49:210-221. ***equal contribution.**

2017 D.Barloscio, E.Cerri, L.Domenici, R.Longhi, C.Dallanoce, M.Moretti, **A.Vilella**, M.Zoli, C.Gotti, N.Origlia. In vivo study of the role of alpha6-containing nicotinic acetylcholine receptor in retinal function using subtype-specific RDP-MII(E11R) toxin. FASEB J. 31(1):192-202.

2017 M.Zoli, S.Pucci, **A.Vilella**, C.Gotti. Neuronal and extraneuronal nicotinic acetylcholine receptors. Curr Neuropharmacol. 2018;16(4):338-349.

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