

CURRICULUM VITAE ET STUDIORUM

PERSONAL INFORMATION

Surname, name: Fabio Di Domenico
Place and date of birth: Rome, 16 April 1979
Nationality: Italian
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SUMMARY OF SCIENTIFIC ACHIEVEMENTS

(May 2025, from Scopus)

Papers: 114

Book chapters: 5

Total Impact factor: ≈ 505

Total Citations: 12830

H-index: 52

EDUCATION AND TRAINING

2009. PhD in Biochemical Sciences from Sapienza University of Rome
2005. University graduation in Biological Sciences from Sapienza University of Rome

WORK EXPERIENCE

2021 – present Full Professor position at the Department of Biochemical Sciences of Sapienza University of Rome
2015 – 2021. Associate Professor position at the Department of Biochemical Sciences of Sapienza University of Rome
2010 – 2015 Researcher (Assistant Professor) position at the Department of Biochemical Sciences of Sapienza University of Rome
2009 – 2010 Post-doctoral fellows (from Istituto Pasteur – Fondazione Cenci Bolognetti) at the Department of Chemistry of the University of Kentucky
2007 – 2008 PhD foreign student at the Department of Chemistry of the University of Kentucky
2005 – 2008 PhD student at the Department of Biochemical Sciences of Sapienza University of Rome

Academic Appointments

Start	End	Institution	Position
2014	present	Department of Biochemical Sciences Faculty of Pharmacy and Medicine, Sapienza University of Rome	Member of the Teaching Board (Collegio dei docenti) of Doctoral School in Biochemistry

2017	present	Department of Biochemical Sciences, Faculty of Pharmacy and Medicine, Sapienza University of Rome	Member of the department research committee (Commissione Ricerca di dipartimento)
2014	2015	Department of Biochemical Sciences, Faculty of Pharmacy and Medicine, Sapienza University of Rome	Member of Department council (Giunta di Dipartimento)
2017	Present	Sapienza University of Rome	
2014	2015	Faculty of Pharmacy and Medicine, Sapienza University of Rome	Member of Faculty council (Giunta di Facoltà)
2017	Present		
2018	present	Faculty of Pharmacy and Medicine, Sapienza University of Rome	Reference teacher of quality committee for the course “Terapia della neuro e psicomotricità dell’età evolutive (TNPEE)”
2019	present	Faculty of Medicine and Pharmacy, Sapienza University of Rome	Member of the faculty research committee (Commissione Ricerca di Facoltà)

RESEARCH ACTIVITIES

Keywords: Alzheimer disease, Down syndrome, proteomics, oxidative stress, neurodegeneration, protein homeostasis

Personal Statement: My research is currently focused on understanding the role of defective proteostasis in the development of Alzheimer’s-like dementia in order to propose novel effective therapeutic approaches that might ameliorate cognitive decline. Starting in 2005, I dedicated my research on the studies of oxidative stress role in the development of neurodegenerative disease. Thanks to my experience at University of Kentucky in the laboratory of prof. D. Allan Butterfield I have been involved in the setting of proteomics approaches comprising redox proteomics. Through these use of techniques, my following research projects contributed to highlight the role of increased oxidative stress and dysfunctional protein degradation systems in the pathogenesis and progression of Alzheimer Disease-like dementia. Indeed, we demonstrated that the oxidative modification (carbonylation, protein bound HNE and nitration) of proteins, belonging to different degradation systems (proteasome and autophagy) impairs their functionality and contributes to the progression of the neurodegenerative process. Therefore, collected data postulated that aberrant proteostasis, observed in both Alzheimer’s and Down syndrome patients, is strictly associated with the increase of oxidative damage as result of compromised antioxidant response and faulty protein degradative systems. Recent studies revealed that chronic induction of the unfolded protein response has a prominent role in the development of AD-like dementia in DS brain. Indeed, the pharmacological rescue of UPR function leads to the reduction in neuropathological hallmarks and to decrease in protein oxidation in a mechanism involving the Nrf2 antioxidant response. The results obtained led to the publication of several articles on peer-reviewed journals and based on these we started to test a number of compounds for the treatment and prevention of cognitive decline in Down syndrome mice.

Research Interests:

- Role of oxidative stress and protein oxidation in Alzheimer disease, Parkinson disease and Down syndrome.
- Role of protein Glycosylation (N-Gly and O-Gly) in the development and progression of Alzheimer Disease
- Role of “Heat shock response” during the progression of Mild Cognitive Impairment to Alzheimer disease.

- Study of molecular mechanisms controlled by STAT3 involved in ischemia/reperfusion neurodegenerative process.
- Analysis of the involvement of mutated LRRK2 and tau crosstalk in the development of Parkinson disease.
- Analysis of CSF and plasma from AD and MCI patients in search of diagnostic biomarker.
- Analysis of HO-1/BVR-A pathway functions during MCI and AD progression.

FUNDINGS

- 2024** **PI** of the project GRT-2023B/ 2280 with the title “Nutrient-dependent alteration of the Unfolded Protein Response in Down syndrome brain: tackling the diet/cognition axis” funded by the Jerome Lejeune Foundation with 80.000,00 Euro
- 2023** **PI** of the project prot. 2022KP5LKS with the title “The noxious crosstalk between protein O-GlcNAcylation and S-palmitoylation under metabolic stress: from their biochemical interaction to the development of neuropathological hallmarks” funded PRIN 2022 program of the Ministry of University and Research with 186.750,00 Euro
- 2022** **Co-PI** of the project MA12218162A911A3 with the title MUMAD: Multimode detection platform to Unravel molecular Mechanisms of Age-associated degenerative Disorders funded by the “progetti di Ateneo” program from Sapienza University of Rome with 48.036,00 Euro
- 2022** **PI** of the project RG12218162AE202C with the title “The noxious crosstalk between protein O-GlcNAcylation and S-palmitoylation under metabolic stress: from their biochemical interaction to the development of neuropathological hallmarks” funded by the “progetti di Ateneo” program from Sapienza University of Rome 73.890,00 Euro
- 2021** **PI** of the project RM12117A2EC1C9E4 with the title “Deciphering the the interplay between the unfolded protein response and insulin resistance in Down syndrome brain” funded by the “progetti di Ateneo” program from Sapienza University of Rome. 10.000,00 Euro
- 2019** **PI** of a project entitled “The sweet link between brain dys-metabolism and cognitive decline: A novel role for protein O-GlcNAcylation” funded by Pasteur Institute – Cenci Bolognetti Foundation under “Two year-research project reserved to under 45 years-old junior scientists” program 40.000,00 Euro
- 2019.** **Co-PI** of the project GR-2018-12366381 with the title “Aberrant protein palmitoylation: a novel biomarker and therapeutic target in Alzheimer's disease” funded by Ministry of Health under BANDO RICERCA FINALIZZATA 2018 call. 422.000,00 Euro
- 2018.** **PI** of the project RG1181642744DF59 with the title “The sweet link between aberrant brain metabolism and cognitive decline: A novel role for altered protein O-GlcNAcylation” funded by the “progetti di Ateneo” program from Sapienza University of Rome. 32.000,00 Euro
- 2017.** **PI** of the project RM11715C773949E3 with the title “Inhibition of PERK pathway for the early treatment of Alzheimer Disease-like cognitive decline in Down Syndrome” funded by “progetti di Ateneo” program from Sapienza University of Rome. 31750,00 Euro
- 2016.** **PI** of the project RG116154C9214D1A with the title “Brain insulin resistance in age-related cognitive decline: molecular mechanisms and novel therapeutic approaches” funded by the “progetti di Ateneo” program from Sapienza University of Rome. 34.000,00 Euro
- 2016.** **Co-PI** of a project entitled “Novel therapeutic strategies for the prevention of Alzheimer Disease” funded by Banca D'Italia. 50.000,00 Euro

- 2016.** Co-PI of project entitled “Intranasal rapamycin administration to prevent Alzheimer-like dementia in Down Syndrome”, funded by Jerome Lejeune foundation. 26.000,00 Euro
- 2015.** PI of a project for Scientific Independent Research (SIR) program from Ministry of Instruction, University and Research (MIUR) Protocol #RBSI144MTL with the title “Cross-talk between insulin signalling and oxidative stress in Alzheimer disease: A new paradigm” 169.938,00 Euro
- 2013.** Co-PI of Marie Curie action grant with the project “Biliverdin Reductase-A in brain insulin signaling and oxidative stress-mediated neurodegeneration” 180.000,00 Euro
- 2012.** PI of a 1-year fellowship to hire a collaborator as one of the best young “under 40” researcher of faculty of pharmacy and medicine of Sapienza University of with the project “Role of oxidative stress in the mechanisms of neurodegeneration”. 22800,00 Euro

SOCIETY MEMBERSHIPS, AWARDS AND HONORS

2020 - present	Editorial board member for the MDPI journal “NeuroSci” (ISSN 2673-4087)
2020 - present	Invited guest editor for a special issue on “Feature paper in section Molecular Pathology” for “Biomolecules” (ISSN 2218-273X)
2019 - present	Editorial board member for the MDPI journal “Biomolecules” (ISSN 2218-273X) section of Molecular Pathology
2015.	Junior faculty award at 12th International Conference on Alzheimer’s Disease and Parkinson’s Disease (APDP 2015)
2013 – present.	Member of Trisomy 21 research society T21RS
2012 - present .	Member of Society of Free Radical Research – Europe (SFRRE)
2013.	Associate editor of Journal of Alzheimer Disease – IOS press
2012.	Selected among the best young “under 40” researcher of faculty of pharmacy and medicine of Sapienza University of Rome
2008 – present.	Member of the Italian Society of Biochemistry and Molecular Biology (SIB)

LIST OF PUBLICATIONS

Book chapters

- [1] F. Di Domenico, C. Lanzillotta. The disturbance of protein synthesis/degradation homeostasis is a common trait of age-related neurodegenerative disorders. *Advances in Protein Chemistry and Structural Biology*, Academic Press, 2022, ISSN 1876-1623,
- [2] M. Perluigi, F. Di Domenico. D. A. Butterfield. Oxidative stress and mTOR in Down syndrome brain: link to Alzheimer’s dysmetabolism, neuropathology and possible therapies. *The neurobiology of aging and Alzheimer disease in Down syndrome*. Academic Press. pp 75-96. ISBN 978-0-12-818845-3
- [3] V. Calabrese, M. Perluigi, C. Cornelius, R. Coccia, F. Di Domenico, et al. (2009) Phenolics in aging and neurodegenerative disorders. *Plant phenolics and human health*. Wiley-IUBMB Series on Biochemistry and Molecular Biology. 427- 451
- [4] F. Di Domenico, M. Perluigi. *Peripheral Biomarkers of Oxidative Stress in Alzheimer’s Disease*. *Studies on Alzheimer's Disease*. Humana Press, Editors: Domenico Praticò, Patrizia Mecocci, pp.185-199, DOI:10.1007/978-1-62703-598-9_13 ISBN: 978-1-62703-598-9

[5] F. Di Domenico, M. Perluigi, D.A. Butterfield. Redox proteomics in human biofluids: Sample preparation, separation and immunochemical tagging for analysis of protein oxidation. *System Biology of Alzheimer's Disease*, pubs. August 02, 2015, pp. 391-403

International peer review journals

- [1] S. Lanzillotta, D. Esteve, C. Lanzillotta, A. Tramutola, A. Lloret, E. Forte, V. Pesce, A. Picca, F. Di Domenico, M. Perluigi, E. Barone, Altered mitochondrial unfolded protein response and protein quality control promote oxidative distress in down syndrome brain, *Free Radic Biol Med* 227 (2025) 80-93.
- [2] B. Buttari, A. Tramutola, A.I. Rojo, N. Chondrogianni, S. Saha, A. Berry, L. Giona, J.P. Miranda, E. Profumo, S. Davinelli, A. Daiber, A. Cuadrado, F. Di Domenico, Proteostasis Decline and Redox Imbalance in Age-Related Diseases: The Therapeutic Potential of NRF2, *Biomolecules* 15(1) (2025).
- [3] M. Perluigi, F. Di Domenico, D.A. Butterfield, Oxidative damage in neurodegeneration: roles in the pathogenesis and progression of Alzheimer disease, *Physiol Rev* 104(1) (2024) 103-197.
- [4] C. Lanzillotta, A. Tramutola, S. Lanzillotta, V. Greco, S. Pagnotta, C. Sanchini, S. Di Angelantonio, E. Forte, S. Rinaldo, A. Paone, F. Cutruzzola, F.A. Cimini, I. Barchetta, M.G. Cavallo, A. Urbani, D.A. Butterfield, F. Di Domenico, B.D. Paul, M. Perluigi, J.M.N. Duarte, E. Barone, Biliverdin Reductase-A integrates insulin signaling with mitochondrial metabolism through phosphorylation of GSK3beta, *Redox Biol* 73 (2024) 103221.
- [5] C. Lanzillotta, M.R. Baniowska, F. Prestia, C. Sette, V. Nalesso, M. Perluigi, E. Barone, A. Duchon, A. Tramutola, Y. Herault, F. Di Domenico, Shaping down syndrome brain cognitive and molecular changes due to aging using adult animals from the Ts66Yah murine model, *Neurobiol Dis* 196 (2024) 106523.
- [6] F. Di Domenico, C. Lanzillotta, M. Perluigi, Redox imbalance and metabolic defects in the context of Alzheimer disease, *FEBS Lett* 598(17) (2024) 2047-2066.
- [7] L. Cosentino, C. Urbinati, C. Lanzillotta, D. De Rasmio, D. Valenti, M. Pellas, M.C. Quattrini, F. Piscitelli, M. Kostrzewa, F. Di Domenico, D. Pietraforte, T. Bisogno, A. Signorelle, R.A. Vacca, B. De Filippis, Pharmacological inhibition of the CB1 cannabinoid receptor restores abnormal brain mitochondrial CB1 receptor expression and rescues bioenergetic and cognitive defects in a female mouse model of Rett syndrome, *Mol Autism* 15(1) (2024) 39.
- [8] C. Urbinati, C. Lanzillotta, L. Cosentino, D. Valenti, M.C. Quattrini, L. Di Crescenzo, F. Prestia, D. Pietraforte, M. Perluigi, F. Di Domenico, R.A. Vacca, B. De Filippis, Chronic treatment with the anti-diabetic drug metformin rescues impaired brain mitochondrial activity and selectively ameliorates defective cognitive flexibility in a female mouse model of Rett syndrome, *Neuropharmacology* 224 (2023) 109350.
- [9] A. Tramutola, S. Lanzillotta, G. Aceto, S. Pagnotta, G. Ruffolo, P. Cifelli, F. Marini, C. Ripoli, E. Palma, C. Grassi, F. Di Domenico, M. Perluigi, E. Barone, Intranasal Administration of KYCCSRK Peptide Rescues Brain Insulin Signaling Activation and Reduces Alzheimer's Disease-like Neuropathology in a Mouse Model for Down Syndrome, *Antioxidants (Basel)* 12(1) (2023).
- [10] S. Pagnotta, A. Tramutola, E. Barone, F. Di Domenico, V. Pittala, L. Salerno, V. Folgiero, M. Caforio, F. Locatelli, S. Petrini, D.A. Butterfield, M. Perluigi, CAPE and its synthetic derivative VP961 restore BACH1/NRF2 axis in Down Syndrome, *Free Radic Biol Med* 183 (2022) 1-13.

- [11] F. Di Domenico, C. Lanzillotta, The disturbance of protein synthesis/degradation homeostasis is a common trait of age-related neurodegenerative disorders, *Adv Protein Chem Struct Biol* 132 (2022) 49-87.
- [12] I. Zuliani, C. Lanzillotta, A. Tramutola, A. Francioso, S. Pagnotta, E. Barone, M. Perluigi, F. Di Domenico, The Dysregulation of OGT/OGA Cycle Mediates Tau and APP Neuropathology in Down Syndrome, *Neurotherapeutics* 18(1) (2021) 340-363.
- [13] I. Zuliani, C. Lanzillotta, A. Tramutola, E. Barone, M. Perluigi, S. Rinaldo, A. Paone, F. Cutruzzola, F. Bellanti, M. Spinelli, F. Natale, S. Fusco, C. Grassi, F. Di Domenico, High-Fat Diet Leads to Reduced Protein O-GlcNAcylation and Mitochondrial Defects Promoting the Development of Alzheimer's Disease Signatures, *Int J Mol Sci* 22(7) (2021).
- [14] M. Perluigi, F. Di Domenico, E. Barone, D.A. Butterfield, mTOR in Alzheimer disease and its earlier stages: Links to oxidative damage in the progression of this dementing disorder, *Free Radic Biol Med* 169 (2021) 382-396.
- [15] C. Lanzillotta, I. Zuliani, A. Tramutola, E. Barone, C. Blarzino, V. Folgiero, M. Caforio, D. Valentini, A. Villani, F. Locatelli, D.A. Butterfield, E. Head, M. Perluigi, J.F. Abisambra, F. Di Domenico, Chronic PERK induction promotes Alzheimer-like neuropathology in Down syndrome: Insights for therapeutic intervention, *Prog Neurobiol* 196 (2021) 101892.
- [16] C. Lanzillotta, A. Tramutola, G. Di Giacomo, F. Marini, D.A. Butterfield, F. Di Domenico, M. Perluigi, E. Barone, Insulin resistance, oxidative stress and mitochondrial defects in Ts65dn mice brain: A harmful synergistic path in down syndrome, *Free Radic Biol Med* 165 (2021) 152-170.
- [17] C. Lanzillotta, F. Di Domenico, Stress Responses in Down Syndrome Neurodegeneration: State of the Art and Therapeutic Molecules, *Biomolecules* 11(2) (2021).
- [18] S.A. Koren, M.J. Hamm, R. Cloyd, S.N. Fontaine, E. Chishti, C. Lanzillotta, J. Rodriguez-Rivera, A. Ingram, M. Bell, S.M. Galvis-Escobar, N. Zulia, F. Di Domenico, D. Duong, N.T. Seyfried, D. Powell, M. Vandsburger, T. Frolinger, A.M.S. Hartz, J. Koren, 3rd, J.M. Axten, N.J. Laping, J.F. Abisambra, Broad Kinase Inhibition Mitigates Early Neuronal Dysfunction in Tauopathy, *Int J Mol Sci* 22(3) (2021).
- [19] D.J. Klionsky, et al. Guidelines for the use and interpretation of assays for monitoring autophagy (4th edition)(1), *Autophagy* 17(1) (2021) 1-382.
- [20] E. Barone, F. Di Domenico, M. Perluigi, D.A. Butterfield, The interplay among oxidative stress, brain insulin resistance and AMPK dysfunction contribute to neurodegeneration in type 2 diabetes and Alzheimer disease, *Free Radic Biol Med* 176 (2021) 16-33.
- [21] I. Zuliani, C. Urbinati, D. Valenti, M.C. Quattrini, V. Medici, L. Cosentino, D. Pietraforte, F. Di Domenico, M. Perluigi, R.A. Vacca, B. De Filippis, The Anti-Diabetic Drug Metformin Rescues Aberrant Mitochondrial Activity and Restrains Oxidative Stress in a Female Mouse Model of Rett Syndrome, *J Clin Med* 9(6) (2020).
- [22] A. Tramutola, C. Lanzillotta, F. Di Domenico, E. Head, D.A. Butterfield, M. Perluigi, E. Barone, Brain insulin resistance triggers early onset Alzheimer disease in Down syndrome, *Neurobiol Dis* 137 (2020) 104772.
- [23] A. Tramutola, S. Falcucci, U. Brocco, F. Triani, C. Lanzillotta, M. Donati, C. Panetta, F. Luzi, F. Iavarone, F. Vincenzoni, M. Castagnola, M. Perluigi, F. Di Domenico, F. Marco, Protein Oxidative Damage in UV-Related Skin Cancer and Dysplastic Lesions Contributes to Neoplastic Promotion and Progression, *Cancers (Basel)* 12(1) (2020).
- [24] V. Protto, A. Tramutola, M. Fabiani, M.E. Marcocci, G. Napoletani, F. Iavarone, F. Vincenzoni, M. Castagnola, M. Perluigi, F. Di Domenico, G. De Chiara, A.T. Palamara, Multiple Herpes Simplex Virus-1 (HSV-1) Reactivations Induce Protein Oxidative Damage in Mouse Brain: Novel Mechanisms for Alzheimer's Disease Progression, *Microorganisms* 8(7) (2020).

- [25] C. Lanzillotta, I. Zuliani, C. Vasavda, S.H. Snyder, B.D. Paul, M. Perluigi, F. Di Domenico, E. Barone, BVR-A Deficiency Leads to Autophagy Impairment through the Dysregulation of AMPK/mTOR Axis in the Brain-Implications for Neurodegeneration, *Antioxidants (Basel)* 9(8) (2020).
- [26] C. Lanzillotta, V. Greco, D. Valentini, A. Villani, V. Folgiero, M. Caforio, F. Locatelli, S. Pagnotta, E. Barone, A. Urbani, F. Di Domenico, M. Perluigi, Proteomics Study of Peripheral Blood Mononuclear Cells in Down Syndrome Children, *Antioxidants (Basel)* 9(11) (2020).
- [27] N. Sharma, A. Tramutola, C. Lanzillotta, A. Arena, C. Blarzino, T. Cassano, D.A. Butterfield, F. Di Domenico, M. Perluigi, E. Barone, Loss of biliverdin reductase-A favors Tau hyper-phosphorylation in Alzheimer's disease, *Neurobiol Dis* 125 (2019) 176-189.
- [28] C. Lanzillotta, F. Di Domenico, M. Perluigi, D.A. Butterfield, Targeting Mitochondria in Alzheimer Disease: Rationale and Perspectives, *CNS Drugs* 33(10) (2019) 957-969.
- [29] F. Di Domenico, I. Zuliani, A. Tramutola, Shining a light on defective autophagy by proteomics approaches: implications for neurodegenerative illnesses, *Expert Rev Proteomics* 16(11-12) (2019) 951-964.
- [30] F. Di Domenico, A. Tramutola, E. Barone, C. Lanzillotta, O. Defever, A. Arena, I. Zuliani, C. Foppoli, F. Iavarone, F. Vincenzoni, M. Castagnola, D.A. Butterfield, M. Perluigi, Restoration of aberrant mTOR signaling by intranasal rapamycin reduces oxidative damage: Focus on HNE-modified proteins in a mouse model of down syndrome, *Redox Biol* 23 (2019) 101162.
- [31] F. Di Domenico, C. Lanzillotta, A. Tramutola, Therapeutic potential of rescuing protein O-GlcNAcylation in tau-related pathologies, *Expert Rev Neurother* 19(1) (2019) 1-3.
- [32] F.A. Cimini, A. Arena, I. Barchetta, A. Tramutola, V. Ceccarelli, C. Lanzillotta, M. Fontana, L. Bertocchini, F. Leonetti, D. Capoccia, G. Silecchia, C. Di Cristofano, C. Chiappetta, F. Di Domenico, M.G. Baroni, M. Perluigi, M.G. Cavallo, E. Barone, Reduced biliverdin reductase-A levels are associated with early alterations of insulin signaling in obesity, *Biochim Biophys Acta Mol Basis Dis* 1865(6) (2019) 1490-1501.
- [33] E. Barone, A. Tramutola, F. Triani, S. Calcagnini, F. Di Domenico, C. Ripoli, S. Gaetani, C. Grassi, D.A. Butterfield, T. Cassano, M. Perluigi, Biliverdin Reductase-A Mediates the Beneficial Effects of Intranasal Insulin in Alzheimer Disease, *Mol Neurobiol* 56(4) (2019) 2922-2943.
- [34] F. Triani, A. Tramutola, F. Di Domenico, N. Sharma, D.A. Butterfield, E. Head, M. Perluigi, E. Barone, Biliverdin reductase-A impairment links brain insulin resistance with increased A β production in an animal model of aging: Implications for Alzheimer disease, *Biochim Biophys Acta Mol Basis Dis* 1864(10) (2018) 3181-3194.
- [35] A. Tramutola, F. Triani, F. Di Domenico, E. Barone, J. Cai, J.B. Klein, M. Perluigi, D.A. Butterfield, Poly-ubiquitin profile in Alzheimer disease brain, *Neurobiol Dis* 118 (2018) 129-141.
- [36] A. Tramutola, N. Sharma, E. Barone, C. Lanzillotta, A. Castellani, F. Iavarone, F. Vincenzoni, M. Castagnola, D.A. Butterfield, S. Gaetani, T. Cassano, M. Perluigi, F. Di Domenico, Proteomic identification of altered protein O-GlcNAcylation in a triple transgenic mouse model of Alzheimer's disease, *Biochim Biophys Acta Mol Basis Dis* 1864(10) (2018) 3309-3321.
- [37] A. Tramutola, C. Lanzillotta, E. Barone, A. Arena, I. Zuliani, L. Mosca, C. Blarzino, D.A. Butterfield, M. Perluigi, F. Di Domenico, Intranasal rapamycin ameliorates Alzheimer-like cognitive decline in a mouse model of Down syndrome, *Transl Neurodegener* 7 (2018) 28.
- [38] A. Tramutola, G. Abate, C. Lanzillotta, F. Triani, E. Barone, F. Iavarone, F. Vincenzoni, M. Castagnola, M. Marziano, M. Memo, E. Garrafa, D.A. Butterfield, M. Perluigi, F. Di

- Domenico, D. Uberti, Protein nitration profile of CD3(+) lymphocytes from Alzheimer disease patients: Novel hints on immunosenescence and biomarker detection, *Free Radic Biol Med* 129 (2018) 430-439.
- [39] C. Lanzillotta, A. Tramutola, S. Meier, F. Schmitt, E. Barone, M. Perluigi, F. Di Domenico, J.F. Abisambra, Early and Selective Activation and Subsequent Alterations to the Unfolded Protein Response in Down Syndrome Mouse Models, *J Alzheimers Dis* 62(1) (2018) 347-359.
- [40] F. Di Domenico, A. Tramutola, C. Foppoli, E. Head, M. Perluigi, D.A. Butterfield, mTOR in Down syndrome: Role in Ass and tau neuropathology and transition to Alzheimer disease-like dementia, *Free Radic Biol Med* 114 (2018) 94-101.
- [41] A. Tramutola, C. Lanzillotta, F. Di Domenico, Targeting mTOR to reduce Alzheimer-related cognitive decline: from current hits to future therapies, *Expert Rev Neurother* 17(1) (2017) 33-45.
- [42] A. Tramutola, F. Di Domenico, E. Barone, A. Arena, A. Giorgi, L. di Francesco, M.E. Schinina, R. Coccia, E. Head, D.A. Butterfield, M. Perluigi, Polyubiquitinylation Profile in Down Syndrome Brain Before and After the Development of Alzheimer Neuropathology, *Antioxid Redox Signal* 26(7) (2017) 280-298.
- [43] S.N. Fontaine, A. Ingram, R.A. Cloyd, S.E. Meier, E. Miller, D. Lyons, G.K. Nation, E. Mechas, B. Weiss, C. Lanzillotta, F. Di Domenico, F. Schmitt, D.K. Powell, M. Vandsburger, J.F. Abisambra, Identification of changes in neuronal function as a consequence of aging and tauopathic neurodegeneration using a novel and sensitive magnetic resonance imaging approach, *Neurobiol Aging* 56 (2017) 78-86.
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- [45] F. Di Domenico, E. Barone, M. Perluigi, D.A. Butterfield, The Triangle of Death in Alzheimer's Disease Brain: The Aberrant Cross-Talk Among Energy Metabolism, Mammalian Target of Rapamycin Signaling, and Protein Homeostasis Revealed by Redox Proteomics, *Antioxid Redox Signal* 26(8) (2017) 364-387.
- [46] A. Tramutola, G. Pupo, F. Di Domenico, E. Barone, A. Arena, C. Lanzillotta, D. Brokekaart, C. Blarzino, E. Head, D.A. Butterfield, M. Perluigi, Activation of p53 in Down Syndrome and in the Ts65Dn Mouse Brain is Associated with a Pro-Apoptotic Phenotype, *J Alzheimers Dis* 52(1) (2016) 359-371.
- [47] A. Tramutola, C. Lanzillotta, A. Arena, E. Barone, M. Perluigi, F. Di Domenico, Increased Mammalian Target of Rapamycin Signaling Contributes to the Accumulation of Protein Oxidative Damage in a Mouse Model of Down's Syndrome, *Neurodegener Dis* 16(1-2) (2016) 62-8.
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