

**PERSONAL INFORMATION**

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**Chiara Lanzillotta *Pharm.D., Ph.D.***

**WORK  
EXPERIENCE**

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From February 2018 – to August 2022  
**Post-doctoral Researcher**  
 Department of Biochemical Sciences  
 "A. Rossi Fanelli" Sapienza University of Rome  
 Rome, Italy



**SAPIENZA**  
 UNIVERSITÀ DI ROMA

From May 2016 – to June 2017  
**Research Scholar**  
 (a) Department of Molecular and Biomedical Pharmacology in the Sanders-Brown Center on Aging and  
 (b) Department of Chemistry, Laboratory of Neurochemistry  
 University of Kentucky, Lexington, Kentucky, USA



From November 2014 – to November 2017  
**Ph.D. Candidate in Biochemistry**  
 Department of Biochemical Sciences "A. Rossi Fanelli" Sapienza University of Rome  
 Rome, Italy



**SAPIENZA**  
 UNIVERSITÀ DI ROMA

From February 2013 – to July 2014  
**Visiting Student**  
 Department of Biochemical Sciences "A. Rossi Fanelli" Sapienza University of Rome  
 Rome, Italy



**SAPIENZA**  
 UNIVERSITÀ DI ROMA

From May 2012 – to November 2013  
 Pharmacy Training  
 Pharmacy  
 Frascati (RM), Italy



## EDUCATION AND TRAINING

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- February 2018 **Post-doctoral Researcher**  
 Department of Biochemical Sciences “A. Rossi-Fanelli” Sapienza University of Rome, Italy
- December 2017 **Ph.D. in Biochemistry**  
 Department of Biochemical Sciences “A. Rossi-Fanelli” Sapienza University of Rome, Italy
- December 2014 **National Qualification as Pharmacist**  
 Faculty of Pharmacy, Sapienza University of Rome, Italy
- July 2014 **Doctor in Pharmaceutical Chemistry and Technology**  
 Faculty of Pharmacy, Sapienza University of Rome, Italy
- 2007 **Secondary School Diploma**  
 Liceo Scientifico “Bruno Touschek” – Grottaferrata (RM) Italia

## PERSONAL SKILLS

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Mother tongue Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1

## HONORS AND AWARDS

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September 2021 **PREMIO ANGELETTI-MORTARI PER LA RICERCA SCIENTIFICA NELL' AMBITO DELLE LIFE SCIENCES**

- June 2019 T21RS Young Investigator Travel Awards (2019) assegnato da T21RS per International Conference of the Trisomy 21 Research Society 6-9 Giugno 2019 Barcellona
- January 2017 BANDO MOBILITA' DOTTORANDI N. 4389/2016, Sapienza University of Rome International Office - Research Unit, Italia
- November 2016 SIB Fellowship 'Società Italiana di Biochimica e Biologia Molecolare' 1000 Euro

## PROFESSIONAL MEMBERSHIPS

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**2017-present** members of T21RS

**2014-present** Italian Society of Biochemistry (SIB)

## INVITED SPEAKER

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- *5th Conference Sindrome di Down dalla diagnosi alla terapia. Virtual edition. 15-16 Ottobre 2021.* La O- gliconacilazione proteica rappresenta un efficace target farmacologico per il recupero delle alterazioni neuronali associate allo sviluppo della malattia di Alzheimer in soggetti con sindrome di Down

*15th International Conference on Alzheimer's and Parkinson's Diseases ADPDTM 2021. March 9- March 14, 2021. Virtual Conference (COVID 19).* Oxidative stress links brain Insulin resistance and mitochondrial defects in Down syndrome brain early in life: implication for neurodegeneration

- *4th Conference Sindrome di Down dalla diagnosi alla terapia. Virtual edition. 16-17 Ottobre 2020* Analisi del profilo proteomico in cellule mononucleate periferiche nella sindrome di Down: una finestra di osservazione verso il danno cerebrale

- *3th Conference Sindrome di Down dalla diagnosi alla terapia 18-19 Ottobre 2019 Napoli.* Alterazioni dell'omeostasi proteica nella T21.

- *3th International Conference on Alzheimer's and Parkinson's Diseases ADPD<sup>TM</sup> 2017 March 29-April 2, 2017 in Vienna, Austria.* The Unfolded Protein Response: a major early participant in the development of Alzheimer-like neuropathology in Down syndrome mice

- *58° National Meeting of the Italian Society of Biochemistry and Molecular Biology (September 2015, Urbino, Italy).* "Ubiquitin-bound protein profile in human brain from Down Syndrome individuals' prior and after the development of Alzheimer-like dementia"

2014-2022: number of selected abstracts: 30

## PROFESSIONAL EXPERTISE

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Surgery and Tissue Processing: High experience with Small Animal Surgery, Brain dissection

Microscopy: Histochemistry, Immunohistochemistry, BrdU, Immunofluorescence

Behavioural Training: Radial maze test, novel object

Cell culture: Primary Neurons

Cell Lines (M17, iHEK, SHSY5, C33A, HeLa, SiHa)

Molecular Biology: DNA extraction, RT-PCR, Real Time PCR, Western Blot analysis, Proteomics and Redox Proteomics

Other Methods: ELISA, Reactive oxygen species assays.

## SCIENTIFIC COLLABORATIONS

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- Prof. Jose F. Abisambra, College of Medicine Department of Neuroscie Center for Translational Research in Neurodegenerative Diseases Gainesv FLORIDA (USA)

- Joao Duarte Lund University (Sweden)

- Prof. D. Allan Butterfield- Department of Chemistry and Sanders-Brown Center on Aging, University of Kentucky, Lexington, KY, 40506-0055, USA

## PUBLICATIONS LIST

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### Pubblicazioni:

[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*. Article in Press 2022

[2] I. Zuliani, **C. Lanzillotta**, A. Tramutola, E. Barone, M. Perluigi, S. Rinaldo, A Paone, F Cutruzzulà, F Bellanti, M Spinelli, F Natale, S Fusco 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.* 2021. Pubmed PMID: 33916835

**Scopus Citations= 0; Impact factor= 5.923**

[3] **C. Lanzillotta**, F. Di Domenico, Stress responses in Down syndrome neurodegeneration: state of the art and therapeutic molecules, *Biomolecules* 11(2), 266 (2021). Pubmed PMID: 33670211

**Scopus Citations= 3; Impact factor= 4.879**

[4] **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. Pubmed PMID: 33516914

**Scopus Citations= 5; Impact factor= 7.376**

[5] 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). Pubmed PMID: 33530349

**Scopus Citations= 1; Impact factor= 5.923**

[6] **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, *Progr Neurobio* (2021) 101892. Pubmed PMID: 32795489

**Scopus Citations= 7; Impact factor= 11.685**

[7] 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* (2020). Pubmed PMID: 33258073

**Scopus Citations= 1; Impact factor= 7.620**

[8] A. Bouzidi, MC. Magnifico, A. Paiardini, A. Macone, G. Boumis, G. Giardina, S. Rinaldo, FR. Liberati, C. Lauro, C. Limatola, **C. Lanzillotta**, A. Tramutola, M. Perluigi, G. Sgarbi, G. Solaini, A. Baracca, A. Paone, F. Cutruzzolà. Cytosolic serine hydroxymethyltransferase controls lung adenocarcinoma cells migratory ability by modulating AMP kinase activity. *Cell Death Dis.* (2020) 11:1012. Pubmed PMID: 33243973

**Scopus Citations= 1; Impact Factor=8.469**

[9] **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). Pubmed PMID: 33187268

**Scopus Citations= 1; Impact factor= 6.312**

[10] **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). Pubmed PMID: 32727065

**Scopus Citations= 5; Impact factor= 6.312**

[11] 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. Pubmed PMID: 31987911

**Scopus Citations= 19; Impact factor= 5.996**

[12] 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). Pubmed PMID: 31906275

**Scopus Citations= 2; Impact factor= 6.639**

[13] **C. Lanzillotta**, F. Di Domenico, M. Perluigi, D.A. Butterfield, Targeting Mitochondria in Alzheimer Disease: Rationale and Perspectives, *CNS Drugs* (2019). Pubmed PMID: 31410665

**Scopus Citations= 19; Impact factor= 5.749**

[14] 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* (2019) 101162. Pubmed PMID: 30876754

**Scopus Citations= 21; Impact factor= 11.799**

[15] 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. Pubmed PMID: 30826467

**Scopus Citations= 15; Impact factor= 5.187**

[16] 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. Pubmed PMID: 30738142

**Scopus Citations= 25; Impact factor= 5.996**

[17] 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. Pubmed PMID: 30410750

**\*Co-first author**

**Citations= 44; Impact factor= 8.014**

[18] 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. Pubmed PMID: 30354776

**Scopus Citations= 8; Impact factor= 3.743**

[19] 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. Pubmed PMID: 30321702

**Scopus Citations= 14; Impact factor= 7.376**

[20] 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. Pubmed PMID: 30031227

**Scopus Citations=18; Impact factor= 5.187**

[21] **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. Pubmed PMID: 29439332

**Scopus Citations= 12; Impact factor= 4.472**

[22] 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. Pubmed PMID: 28500878

**Scopus Citations= 13; Impact factor= 4.673**

[23] 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. Pubmed PMID: 27690737

**Scopus Citations= 38; Impact factor= 3.743**

[24] A. Tramutola, **C. Lanzillotta**, M. Perluigi, D.A. Butterfield. Oxidative stress, protein modification and Alzheimer disease. *Brain Res Bull.* 2016 Jun 15. Pubmed PMID: 27316747

**Scopus Citations= 136; Impact Factor=4.077**

[25] 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. Pubmed PMID: 26967221

**Scopus Citations= 22; Impact factor= 4.472**

[26] 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. Pubmed PMID: 26606243

**Scopus Citations=26; Impact factor= 2.977**