Personal data			
Surname	**Name**	**Organization and position**	**Date of birth**
Tapella	Laura Paola Ferilde	RTDB(assistant professor), University of Eastern Piedmont, Department of Pharmaceutical Sciences, Via Bovio, 6, 28100, Novara, ITALY. e-mail: laura.tapella@uniupo.it	17011982 Magenta (MI), ITALY.

Education and training

2023- RTDB Physiology

2020- ASN Physiology (05/D1)

2017- Postdoc, University of Eastern Piedmont, Department of Pharmaceutical Sciences Actual position. Neurobiology, neuroscience, and biochemistry study on Astroglial dependent dysfunction in Alzheimer's disease.

2014-2017 Postdoc, University of Milan, Milan, Italy. Neurobiology and neuroendocrinology study on GH-secreting tumors.

2014-2011 Postdoc, Mario Negri Institute for Pharmacological Research, Milan, Italy. Neurobiology, neuroscience, and biochemistry study on Prion and Alzheimer's disease.

2008-2011 Ph.D., Mario Negri Institute for Pharmacological Research, Milan, Italy. Biochemistry and neuroscience study on Prion and Alzheimer's disease.

2004-2007 Master's Degree in Medical and Pharmaceutical Biotechnology, University of Eastern Piedmont, Novara, Italy, (experimental biochemistry thesis).

2001-2004 Degree in Biotechnology, University of Eastern Piedmont, Novara, Italy (experimental organic chemistry thesis).

Research and professional experience

April 2017 – present RTDB(assistant professor) at University of Eastern Piedmont, DSF, via Bovio 6, Novara, Italy. I concentrate my studies on the role of astroglial calcineurin in both cellular and animal models of Alzheimer's disease. I create a new line of research that links Endoplasmic Reticulum-Mithocondria interaction, Calcium signaling, and protein synthesis dysfunction in astroglial dysfunction.

June 2014- March 2017 Postdoc researcher for the University of Milan at IRCCS-Istituto Auxologico, in the neuroendocrine Lab of Prof. F. Pecori Giraldi, Milan, Italy. At the University of Milan, I characterized the proliferative activity of endocrine disruptors on rat primary pituitary cells and human pituitary tumors to a possible role of pollution in cancer progression (in the lab of Prof.F. Pecori Giraldi).

2011-2014 Postdoc researcher: employment contract with Telethon Foundation in the Prion Neurobiology Lab of Dr. R. Chiesa, Mario Negri Institute, Milan, Italy. My Postdoc project at Mario Negri Institute was to discover and characterize the mechanism of new therapeutic compounds for prion diseases using *in vitro* screening and *in vivo* study. During this time as a collaborator of Dr. G. Forloni, Dr. M. Salmona, and Dr.

M, Gobbi, I contributed also to two publications studying the role and interaction of Prion protein and Aβ oligomers in AD pathology.

2008-2011 Ph.D. researcher: research fellow with Telethon Foundation in the Prion Neurobiology Lab of Dr. R. Chiesa, Mario Negri Institute, Milan, Italy. During my Ph.D. at At Mario Negri Institute, I had the opportunity to improve my research skills in biochemistry, neurobiology, and neuroscience. I built up my technical research ability and network. I pick up biochemical and chromatographic analysis, cellular culturing, microscopy, cloning, and mouse handling. In particular, my Ph.D. research study was on prion diseases, and on structure-function correlation in different forms of inherited prion diseases utilizing a variety of approaches, including protein chemistry, molecular biology, cell biology, and transgenic mice.

April 2007 - October 2007 Research fellow at the University of Eastern Piedmont in the Biochemistry Lab of Prof. F. Sinigaglia, Novara, Italy. At Novara, I investigated the role of membrane lipid rafts on estrogen-dependent signaling in human platelet with biochemical and cellular approaches. Finally, my first research study was in the Organic Chemist Lab of Prof. A. Appendino in which I optimized a method for extraction and fractionation of Furano cumarin from *Opopanax Chironium*.

Other Experience and Professional Memberships

2017 Review Editor the Editorial Board of Neurodegeneration, a specialty of Frontiers in Neurology, Neuroscience, and Psychiatry

2020 Reviewer for Biology, indexed by SCIE (Web of Science) and PubMed (NLM), Scopus (CiteScore 6.20). https://www.mdpi.com/journal/biology

2021 MDPI-*Life -Guest editor* "The Non-Cellular Autonomic Mechanism of Neuronal Degeneration: Protein Synthesis and Secretion".

Member of a scientific society

2020 SIF-Società italiana di farmacologia.
2021 SINS-società italiana di neuroscienze.
2023 SIF-società italiana di fisiologia.

Researcher profile

SC 35424824200
https://orcid.org/0000-0002-8159-1628
Loop Profile 476312
Sci Profiles 1021113

Scientific publications

Total papers 25, h-index 11, citations 670 Scopus 2023)
First author=9; *co-first =2
§Last author=3
#Corresponding author=1

1. **Tapella L**, Dematteis G, Genazzani AA, De Paola M, Lim D. Immortalized hippocampal astrocytes from 3xTg-AD mice, a new model to study disease-related astrocytic dysfunction: a comparative review. Neural Regen Res. 2023 Aug;18(8):1672-1678. doi: 10.4103/1673-5374.363192. PMID: 36751778 Review
2. Gong C, Bonfili L, Zheng Y, Cecarini V, Cuccioloni M, Angeletti M, Dematteis G, **Tapella L**, Genazzani AA, Lim D, Eleuteri AM. Immortalized Alzheimer's Disease Astrocytes: Characterization of Their Proteolytic Systems. Mol Neurobiol. 2023 Feb 2. doi: 10.1007/s12035-023-03231-z. Online ahead of print. PMID: 36729287

3. **Tapella L,** Dematteis G, Moro M, Pistolato B, Tonelli E, Vanella VV, Giustina D, La Forgia A, Restelli E, Barberis E, Cali T, Brini M, Villani S, Del Grosso E, Grilli M, Manfredi M, Corazzari M, Grolla AA, Genazzani AA, Lim D. Protein synthesis inhibition and loss of homeostatic functions in astrocytes from an Alzheimer's disease mouse model: a role for ER-mitochondria interaction. Cell Death Dis. 2022 Oct 18;13(10):878. doi: 10.1038/s41419-022-05324-4.
4. Lim D, **Tapella L**, Dematteis G, Talmon M, Genazzani AA.Calcineurin Signalling in Astrocytes: From Pathology to Physiology and Control of Neuronal Functions. Neurochem Res. 2022 Sep 9. doi: 10.1007/s11064-022-03744-4. Online ahead of print. PMID: 36083398 Review.
5. Faris P, Rumolo A, **Tapella L**, Tanzi M, Metallo A, Conca F, Negri S, Lefkimmiatis K, Pedrazzoli P, Lim D, Montagna D, Moccia F. Store-Operated Ca2+ Entry Is Up-Regulated in Tumour Infiltrating Lymphocytes from Metastatic Colorectal Cancer Patients. Cancers (Basel). 2022 Jul 7;14(14):3312. doi: 10.3390/cancers14143312. PMID: 35884372 Free PMC article
6. Dematteis G, Restelli E, Vanella VV, Manfredi M, Marengo E, Corazzari M, Genazzani AA, Chiesa R, Lim D, **Tapella L**[#§]. Calcineurin Controls Cellular Prion Protein Expression in Mouse Astrocytes. Cells. 2022 Feb 10; 11(4):609. doi: 10.3390/cells11040609. PMID: 35203261 Free PMC article
7. **Tapella L**, Dematteis G, Ruffinatti FA, Ponzoni L, Fiordaliso F, Corbelli A, Albanese E, Pistolato B, Pagano J, Barberis E, Marengo E, Balducci C, Forloni G, Verpelli C, Sala C, Distasi C, Sala M, Manfredi M, Genazzani AA, Lim D. Deletion of calcineurin from astrocytes reproduces proteome signature of Alzheimer's disease and epilepsy and predisposes to seizures. Cell Calcium. 2021 Dec; 100:102480. doi: 10.1016/j.ceca.2021.102480. Epub 2021 Sep 26. PMID: 34607180
8. Lim D, Dematteis G, **Tapella L**, Genazzani AA, Calì T, Brini M, Verkhratsky A. Ca^{2+} handling at the mitochondria-ER contact sites in neurodegeneration. Cell Calcium. 2021 Sep; 98:102453. doi: 10.1016/j.ceca.2021.102453. Epub 2021 Aug 5. PMID: 34399235 Review.
9. Pecori Giraldi F, Sesta A, **Tapella L**, Cassarino MF, Castelli L. Dual effects of 9-cis retinoic acid on ACTH-dependent hyperplastic adrenal tissues. Sci Rep. 2021 Jul 12; 11(1):14315. doi: 10.1038/s41598-021-93672-0. PMID: 34253781 Free PMC article.
10. Dematteis G, Vydmantaitė G, Ruffinatti FA, Chahin M, Farruggio S, Barberis E, Ferrari E, Marengo E, Distasi C, Morkūnienė R, Genazzani AA, Grilli M, Grossini E, Corazzari M, Manfredi M, Lim D, Jekabsone A, **Tapella L**[§]. Proteomic analysis links alterations of bioenergetics, mitochondria-ER interactions and proteostasis in hippocampal astrocytes from 3xTg-AD mice. Cell Death Dis. 2020 Aug 18;11(8):645. doi: 10.1038/s41419-020-02911-1. PMID: 32811809 Free PMC article.
11. Ruffinatti FA, Lomazzi S, Nardo L, Santoro R, Martemiyanov A, Dionisi M, **Tapella L**, Genazzani AA, Lim D, Distasi C, Caccia M. Assessment of a Silicon-Photomultiplier-Based Platform for the Measurement of Intracellular Calcium Dynamics with Targeted Aequorin. ACS Sens. 2020 Aug 28;5(8):2388-2397. doi: 10.1021/acssensors.0c00277. Epub 2020 Aug 5. PMID: 32701269 Free PMC article.
12. Dematteis G, Restelli E, Chiesa R, Aronica E, Genazzani AA, Lim D, **Tapella L**[§]. Calcineurin Controls Expression of EAAT1/GLAST in Mouse and Human Cultured Astrocytes through Dynamic Regulation of Protein Synthesis and Degradation. Int J Mol Sci. 2020 Mar 23; 21 (6):2213. doi: 10.3390/ijms21062213. PMID: 32210081 Free PMC article.
13. **Tapella L**, Soda T, Mapelli L, Bortolotto V, Bondi H, Ruffinatti FA, Dematteis G, Stevano A, Dionisi M, Ummarino S, Di Ruscio A, Distasi C, Grilli M, Genazzani AA, D'Angelo E, Moccia F, Lim D. Deletion of calcineurin from GFAP-expressing astrocytes impairs excitability of cerebellar and hippocampal neurons through astroglial Na+ /K+ ATPase. Glia.2020 Mar; 68 (3):543-560. doi: 10.1002/glia.23737. Epub 2019 Oct 18. PMID: 31626368
14. Lodola F, Rosti V, Tullii G, Desii A, **Tapella L**, Catarsi P, Lim D, Moccia F, Antognazza MR. Conjugated polymers optically regulate the fate of endothelial colony-forming cells. Sci Adv. 2019 Sep 27;5 (9):eaav4620. doi: 10.1126/sciadv.aav4620. eCollection 2019 Sep. PMID: 31598549 Free PMC article.
15. Rocchio F, **Tapella L***, Manfredi M, Chisari M, Ronco F, Ruffinatti FA, Conte E, Canonico PL, Sortino MA, Grilli M, Marengo E, Genazzani AA, Lim D.Gene expression, proteome and calcium signaling alterations in immortalized hippocampal astrocytes from an Alzheimer's disease mouse

model Cell Death Dis. 2019 Jan 10;10(1):24. doi: 10.1038/s41419-018-1264-8. PMID: 30631041 Free PMC article.
16. Ruffinatti F, **Tapella L***, Gregnanin I, Stevano A, Chiorino G, Canonico PL, Distasi C, Genazzani AA, Lim D. Transcriptional Remodeling in Primary Hippocampal Astrocytes from an Alzheimer's Disease Mouse Model. Curr Alzheimer Res. 2018;15 (11):986-1004. doi: 10.2174/1567205015666180613113924. PMID: 29895250
17. **Tapella L**, Cerruti M, Biocotino I, Stevano A, Rocchio F, Canonico PL, Grilli M, Genazzani AA, Lim D.TGF-β2 and TGF-β3 from cultured β-amyloid-treated or 3xTg-AD-derived astrocytes may mediate astrocyte-neuron communication. Eur J Neurosci.2018 Feb; 47(3):211-221. doi: 10.1111/ejn.13819. Epub 2018 Jan 18. PMID: 29283464
18. **Tapella L**, Sesta A, Cassarino MF, Zunino V, Catalano MG, Pecori Giraldi F. Benzene and 2-ethyl-phthalate induce proliferation in normal rat pituitary cells. Pituitary.2017 Jun; 20(3):311-318. doi: 10.1007/s11102-016-0777-3. PMID: 27853917 Free PMC article.
19. Stravalaci M, **Tapella L**, Beeg M, Rossi A, Joshi P, Pizzi E, Mazzanti M, Balducci C, Forloni G, Biasini E, Salmona M, Diomede L, Chiesa R, Gobbi M.The Anti-Prion Antibody 15B3 Detects Toxic Amyloid-β Oligomers. J Alzheimers Dis. 2016 Jul 6;53 (4):1485-97. doi: 10.3233/JAD-150882. PMID: 27392850 Free PMC article.
20. Sesta A, Cassarino MF, **Tapella L**, Castelli L, Cavagnini F, Pecori Giraldi F. Effect of retinoic acid on human adrenal corticosteroid synthesis. Life Sci. 2016 Apr 15;151:277-280. doi: 10.1016/j.lfs.2016.03.023. Epub 2016 Mar 12. PMID: 26979774
21. Bouybayoune I, Mantovani S, Del Gallo F, Bertani I, Restelli E, Comerio L, **Tapella L**, Baracchi F, Fernández-Borges N, Mangieri M, Bisighini C, Beznoussenko GV, Paladini A, Balducci C, Micotti E, Forloni G, Castilla J, Fiordaliso F, Tagliavini F, Imeri L, Chiesa R. Transgenic fatal familial insomnia mice indicate prion infectivity-independent mechanisms of pathogenesis and phenotypic expression of disease. PLoS Pathog. 2015 Apr 16; 11(4):e1004796. doi: 10.1371/journal.ppat.1004796. eCollection 2015 Apr. PMID: 25880443 Free PMC article.
22. **Tapella L**, Stravalaci M, Bastone A, Biasini E, Gobbi M, Chiesa R. Epitope scanning indicates structural differences in brain-derived monomeric and aggregated mutant prion proteins related to genetic prion diseases. Biochem J. 2013 Sep 15;454(3):417-25. doi: 10.1042/BJ20130563. PMID: 23808898
23. Biasini E, **Tapella L**, Restelli E, Pozzoli M, Massignan T, Chiesa R. The hydrophobic core region governs mutant prion protein aggregation and intracellular retention. Biochem J. 2010 Sep 15;430(3):477-86. doi: 10.1042/BJ20100615. PMID: 20626348
24. Balducci C, Beeg M, Stravalaci M, Bastone A, Sclip A, Biasini E, **Tapella L**, Colombo L, Manzoni C, Borsello T, Chiesa R, Gobbi M, Salmona M, Forloni G. Synthetic amyloid-beta oligomers impair long-term memory independently of cellular prion protein. Proc Natl Acad Sci U S A. 2010 Feb 2;107(5):2295-300. doi: 10.1073/pnas.0911829107. Epub 2010 Jan 19. PMID: 20133875 Free PMC article.
25. Biasini E, **Tapella L**, Mantovani S, Stravalaci M, Gobbi M, Harris DA, Chiesa R. Immunopurification of pathological prion protein aggregates. PLoS One. 2009 Nov 12; 4(11):e7816. doi: 10.1371/journal.pone.0007816. PMID: 19915706 Free PMC article.

Congresses

Organization of symposia or congresses:
2021 "10°National congress of Italian society for neuroscience-SINS2021" organization of the symposium "Under 40" in the session "Proteinopathies in neurodegenerative diseases". Titled: "The complexity of proteinopathies in neurodegenerative diseases: a highlight of new models, mechanisms and possible therapies" Chair: **L. Tapella**.
2018 "Calcium Day", supporting staff and organizing committee, Novara.

Oral Communication:
2023 **"**National congress of Italian society for neuroscience-SINS2021" organization of the symposium" **L. Tapella**

*2021 "*40° Congresso nazionale della società italiana di farmacologia"
*"*Proteomics analysis links alterations of bioenergetics, mitochondria-ER interaction, and proteostasis in hippocampal astrocytes from 3xTg-AD mice*"* **L. Tapella.**
2021 "10°National congress of Italian society for neuroscience-SINS2021"
"Proteomics analysis links mitochondria-ER interaction and proteostasis in hippocampal astrocytes from 3xTg-AD mice" **L. Tapella**.
2021 "Junior European Calcium Society"
"Proteomics analysis links alterations of bioenergetics, mitochondria-ER interaction, and proteostasis in hippocampal astrocytes from 3xTg-AD mice" **L. Tapella**.
2009 "Prion 2009", Thessaloniki
"Characterization of the molecular heterogeneity of mutant prion proteins" **L. Tapella**.

Poster Presentation:
15-17 December 2022: "More than Neurons", Torino
29 November -1 December 2018: "More than Neurons", Torino
2 July 2018 "Calcium Day 2018" Novara-UNIUPO
Gene expression, proteome and calcium signaling alterations in immortalized hippocampal astrocytes from an Alzheimer's disease mouse model. Tapella L, Rocchio F, Manfredi M, Chisari M, Ronco F, Ruffinatti Federico A, Conte E, Canonico P, Sortino M, Grilli M, Marengo E, Genazzani AA and Lim D

4-6 December 2017: "European synapse meeting", Milano

11-13 February 2016 "4i" Turin.
Effect of benzene and phthalate on human GH-secreting pituitary adenomas
Tapella L, Sesta A, Losa M, Cavagnini F, Pecori Giraldi F

14-15 May 2011: "Prion 2011-Young researchers training in science communication", Montreal
16-19 May 2011: "Prion 2011", Montreal
A surface plasmon resonance-based immunoassay to investigate the structural diversity of brain-extracted PrP molecules. Tapella L, Stravalaci M , Biasini E, Bastone A, Gobbi M and Chiesa R.

8-11 September 2010: "Prion 2010", Salzburg
Characterization of mutant prion proteins extracted from the brains of transgenic mice
Tapella L, Stravalaci M , Biasini E, Gobbi M and Chiesa R.

8-9 May 2009: "IV Meeting on the Molecular Mechanisms of Neurodegeneration", Milano

23-25 October 2009: "Prion 2009", Thessaloniki
Characterization of the molecular heterogeneity of mutant prion proteins
Tapella L, Stravalaci M , Biasini E, Gobbi M and Chiesa R

26-28 July 2008: "Human and animal TSE", Grado
October 2008: "Dulbecco Telethon Institute Retreat", Bardolino
Characterization of the molecular diversity of infectious and non-infectious aggregates of PrP
Biasini E, Tapella L, Senatore A, Chiesa R and Harris DA

8-10 October 2008: "Prion 2008", Madrid
Characterization of the molecular diversity of mutant prion protein aggregates
Tapella L, Biasini E, and Chiesa R

Grants

2018-2020 CRT postdoc fellow (Call 1393-2017) by CRT Foundation (40000 euro/24 months)

Project title: “REGULATION OF NEURONAL PROTEIN EXPRESSION AND FUNCTION BY ASTROGLIAL CALCINEURIN”. This open competition awarded 14 fellowships funded by the Cassa di Risparmio di Torino.

Novara (Italy), 09/02/2023