

PERSONAL DETAILS

EDUCATION AND WORKING EXPERIENCE

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| December 2020 up to now | Associate Professor of Applied Biology at the Department of Molecular Medicine and Medical Biotechnologies, University of Naples |
| December 2017 to December 2020 | Assistant Professor (RTD-B) of Applied Biology at the Department of Molecular Medicine and Medical Biotechnologies, University of Naples |
| January 2014 | National scientific qualification (ASN) to function as Associate Professor of Applied Biology (Call 2012, Area 05/F1, BIO-13) |
| November 2007-November 2017 | Research Associate at the Department of Medical Genetics, Cambridge Institute of Medical Research-University of Cambridge (UK) |
| February 2008 | PhD in "Biochemistry, Pathology and Mechanisms of Drug Action", University of Naples |
| October 2003 | Master Degree in Medical Biotechnologies, University of Naples (Italy) Final mark: 110/110 with distinction |

MAIN RESEARCH TOPICS

- **Endoplasmic Reticulum (ER) stress response**
- **Analysis of the dynamics of transport in the early secretory pathway**
- **Role of autophagy in neurodegenerative and infectious diseases**
- **Mechanisms regulating autophagosome biogenesis**
- **Pharmacological modulation of autophagy**

TECHNICAL SKILLS

Tissue Culture: eukaryotic cell cultures; isolation, culture and *in vitro* differentiation of primary cells. Transient transfection of DNA into eukaryotic cells and generation of stably-transfected cell lines. RNA-interference methodologies. Preparation and use of lentiviral vectors for shRNA interference. CRISPR/CAS9-based knock-out methodologies.

Molecular Biology and Biochemistry: PCR-based methods, major techniques for molecular cloning, DNA mutagenesis and manipulation, screening of expression libraries, expression and purification of recombinant proteins, *in vitro* transcription and translation assays. Isolation of total and polyA⁺ RNA, Northern blot, RNase protection, Primer extension, 5' Race system, Quantitative RT-PCR, reporter assays, preparation of nuclear extracts and DNA-protein interaction analysis (EMSA, Chromatin IP). Enzymatic activity assays. SDS-PAGE, W. blot analysis, radioactive metabolic labelling, immunoprecipitation (IP/co-IP), Biotinylation assays, GST/pull-down and GFP-TRAP assays. Mass Spectrometry and RNAseq analysis.

Cell Biology: Indirect immunofluorescence. Optical and confocal microscopy and live imaging analysis. Cellomics Arrayscan High Content Analysis. Sample preparation for electron microscopy. Methods of cellular fractionation by gradient density and differential ultracentrifugation. Isolation of microsomes, *in vitro* budding and vesicle formation assays. Isolation and purification of lysosomes. Protein complementation (PCA) and proximity ligation (PLA) assays. Analysis of: autophagosome- and proteasome-dependent protein turn-over, intracellular protein transport and secretion, endocytosis and lysosomal degradation. Analysis of mitochondrial membrane potential, cell viability and apoptosis. FACS analysis.

PARTICIPATION TO RESEARCH PROJECTS

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| 1. Project title | Molecular basis for the FV and FVIII combined coagulation deficiency (F5F8D) |
| Funding Institution | Regione Campania- Legge Regionale n. 5 |
| Role | PhD student |
| 2. Project title | Therapeutic approaches for codon reiteration diseases |
| Funding institution | Wellcome Trust |
| Role | Research Associate |
| 3. Project title | Autophagy in Health and Disease |
| Funding Institution | Wellcome Trust |
| Role | Research Associate |
| 4. Project title | NIHR BRU PROJECT 2 SCREENS FOR NOVEL THERAPIES |
| Funding Institution | Cambridge University Hospitals NHS Foundation Trust (CUH) |
| Role | Research Associate |
| 5. Project title | Autophagy modulation: biomarkers and therapeutic strategies |
| Funding Institution | AstraZeneca/MedImmune and University of Cambridge |
| Role | Research Associate |
| 6. Project title | Cutting-edge integrated technologies for the structural study of living cellular machineries from the atomic to the molecular level |
| Funding Institution | Italian Ministry of University and Research (MIUR) |
| Role | Principal Investigator |
| 7. Project title | Characterization of novel PKR inhibitors |
| Funding Institution | Protekt Therapeutics Ltd./University of Naples "Federico II" |
| Role | Principal Investigator |

KEY PUBLICATIONS

1. *Int. J. Biochem. Cell Biol.* 2006 38, 2040-2048
 2. *J. Biol. Chem.* 2007 282, 22499-22512
 3. *Autophagy.* 2009 27: 5(6), 835-846
 4. *J. Cell Sci.* 2011 124, 469-482
 5. *Mol. Cell* 2011 43, 19-32
 6. *J. Clin. Invest.* 2011 121(9), 3554-3563
 7. *Trends Biochem. Sci.* 2012 38(2), 57-63
 8. *Hum. Mol. Genet.* 2013, 22 (22), 4528-4544
 9. *Cell* 2013, 154(6), 1285-1299
 10. *EMBO Mol. Med.* 2014 DOI: 10.15252/emmm.201404137
 11. *ANNUAL REVIEW OF BIOCHEMISTRY* 2016 85(1) DOI: 10.1146/annurev-biochem-060815-014556
 12. *Frontiers in Molecular Neuroscience* 2017 DOI: <https://doi.org/10.3389/fnmol.2017.00187>
 13. *Nature Communications* 2018 9(1),2 961
 14. *Sci. Rep* 2019; 9(1):16892. DOI: 10.1038/s41598-019-53226-x.
- *: joint corresponding author
15. *iScience*, 2021, 24(7), 102707

BOOK CHAPTERS

Neurodegenerative diseases and autophagy (Book chapter). *Wolfe. The Molecular and Cellular Basis of Neurodegenerative diseases: Underlying Mechanisms.* 2018, pages 299-343

AUTHOR EVALUATION AND PUBLICATION METRICS (PubMed/Scopus Database)

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| TOTAL NUMBER OF PUBLICATIONS: | 44 |
| TOTAL NUMBER OF CITATIONS: | 8336 |
| AVERAGE NUMBER OF CITATIONS: | 189.455 |
| TOTAL IMPACT FACTOR (2020): | 436.054 |
| AVERAGE IMPACT FACTOR: | 9.910 |
| HIRSCH INDEX (H-Index): | 27 |

PATENTS AND LICENSED PRODUCTS

1. "Traffic-light" cells: a tandem fluorescent-tagged reporter system to track down the itinerary and maturation of autophagosomes. Technology Transfer operated by Cambridge Enterprise, University of Cambridge (UK). Licensed to E3Bio (<http://www.e3bio.com>).
File executed: 31 March 2016 (License No.: **A11352**)

EDITORIAL ACTIVITIES

Since 2009

Serves as "Ad hoc peer reviewer" for the following journals: Cell Death and Differentiation (September 2009), Molecular BioSystems (October 2013), Chemical Research in Toxicology (April 2014), DNA and Cell Biology (November 2014), Autophagy (July 2015), The Royal Society of Chemistry Advances (August 2016), Frontiers in Cellular Neuroscience (June 2018), Frontiers in Cellular and Infection Microbiology (November 2016), Frontiers in Cell and Developmental Biology (November 2016), Frontiers in Neuroscience (October 2018), Frontiers in Endocrinology (October 2019), Journal of Molecular Biology (December 2020), Biomedicine and Pharmacotherapy (July 2020)

Serves as Review Editor for the following journals: Frontiers in Cell and Developmental Biology, Frontiers in Chemistry and Frontiers in Molecular Biosciences (November 2016).

Regular member of several scientific societies, such as:

1. Associazione Italiana di Biologia e Genetica (AIBG)
2. Associazione Italiana di Biologia Cellulare e del Differenziamento (ABCD)
3. Biochemical Society (FEBS)

ADDITIONAL INFORMATIONS

LANGUAGES

Italian (Native)

English (Full Professional Proficiency, C2)

IT SKILLS

Experienced user of Windows and Apple-Macintosh operating systems. Proficient in the use of software, tools and applications (Office, Adobe, Acrobat, Statview, GraphPad, Zeiss LSM, CellQuest, FloJo, Uniprot, BioGRID^{3,2}, ImageJ) for the preparation, production, data mining and analysis of experimental data and images.

NON-SCIENTIFIC INTERESTS

Travelling: well-travelled - business and leisure in Europe, Africa and North America

Other interests: several sport activities (cycling, swimming, football, tennis), reading, listening to rock music, cinema, art and theatre.