Mayra Colardo

WORK ESPERIENCE

March 2023 – present

Research scholarship

Title of the research project “Study of new nutraceutical approaches to counteract muscle atrophy”.

University of Molise

Department of Biosciences and Territory, lab of General Physiology

November 2019 - May 2023

PhD studentship in Biology and Applied Sciences – *curriculum* Biology – XXXV cycle

Title of the PhD thesis: “Identification of novel regulatory mechanisms to control cholesterol homeostasis: a focus on brain cells”

University of Molise

Department of Biosciences and Territory, lab of General Physiology

May 2018 - June 2019

University internship

University of Molise

Department of Biosciences and Territory, lab of Cellular and Molecular Biology

October 2012

University internship

“Transfusion Center” – Hospital “Veneziale”

Via S. Ippolito 17, 86170, Isernia (IS)

EDUCATION AND TRAINING

May 2023

PhD studentship in Biology and Applied Sciences – *curriculum* Biology – XXXV cycle

(See above)

November 2019

Professional Abilitation in Biology

University of Molise

Department of Biosciences and Territory

July 2019

Master Degree in Biology (110/110 cum laude)

Title of Master thesis: “Modulation of protein kinase ULK1 expression in human glioblastoma models”

University of Molise, lab of Cellular and Molecular Biology

Department of Biosciences and Territory

October 2016

Bachelor Degree in Biological Sciences

University of Molise

Department of Biosciences and Territory

CONTINUING EDUCATION COURSE

January 2023
"General and Specific Safety Training Course"
Prevention and Protection Sector – University of Molise

November 2022
Course on "Biology and management of laboratory animals"
IZSLER – Formazione a distanza

Course on "National legislation and Ethics level 1"
IZSLER – Formazione a distanza

June 2022
Course on "The use of statistics in the biomedical research"
Fondazione Santa Lucia – CERC (European Centre for Brain Research)

April 2018
General and specific information and training course for personnel art. 36 and 37 of Legislative Decree 81/08 and subsequent amendments for a total of 8 hours with final learning test.
Azienda Sanitaria Regionale Molise (ASREM)

TECHNICAL SKILLS AND COMPETENCES

Methods and techniques of primary, immortal and tumoral cell cultures.

Optical and confocal microscopy, immunohistochemistry and immunofluorescence.

Biochemical and immunological methods for the evaluation of proteins (protein quantification through Lowry method, Western blotting, protein degradation assays, ELISA, triglycerides and cholesterol assays).

RNA extraction and quantification (RT-PCR) from cell cultures and tissues.

LANGUAGES

Mother tongue: Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B1	B1	B1	B1	B1

TEACHING ACTIVITIES

2022 - present
Expert of the field and exam committee member for the course "Physiology of Nutrition", inserted in the teaching program of the master degree in "Biology".
Department of Biosciences and Territory, University of Molise.

2021 - present

Expert of the field and exam committee member for the course “Experimental models for biomedical research”, inserted in the teaching program of the master degree in “Biology”.

Department of Biosciences and Territory, University of Molise.

2020 - present

Expert of the field and exam committee member for the course “Endocrine Physiology and Neurophysiology”, inserted in the teaching program of the master degree in “Biology”.

Department of Biosciences and Territory, University of Molise.

Expert of the field for the course “Developmental Biology”, inserted in the teaching program of the master degree in “Biology”.

Department of Biosciences and Territory, University of Molise.

2019 - present

Expert of the field and exam committee member for the course “Physiology”, inserted in the teaching program of the bachelor degree in “Biological Sciences”.

Department of Biosciences and Territory, University of Molise.

Expert of the field for the course “Citology and Histology”, inserted in the teaching program of the bachelor degree in “Biological Sciences”.

Department of Biosciences and Territory, University of Molise.

2020 - present

Assistant supervisor for the experimental thesis entitled “Modulation of the p75 neurotrophin receptor: a possible therapeutic approach for Niemann-Pick disease type C”.

Department of Biosciences and Territory, University of Molise.

Assistant supervisor for the experimental thesis entitled “NGF stimulates ApoE secretion from glial cells and mediates neuroprotective effects in an oxidative stress model”.

Department of Biosciences and Territory, University of Molise.

Assistant supervisor for the experimental thesis entitled “Inhibition of BET proteins compromises cell growth of glioblastoma and enhances sensitivity to Temozolomide”.

Department of Biosciences and Territory, University of Molise.

Assistant supervisor for the experimental thesis entitled “Study of autophagic flow in Niemann-Pick disease type C”.

Department of Biosciences and Territory, University of Molise.

Assistant supervisor for the experimental thesis entitled “BET proteins regulate autophagy in a human glioblastoma cell line”.

Department of Biosciences and Territory, University of Molise.

Assistant supervisor for the experimental thesis entitled “NGF modulates cholesterol metabolism in an astrocytic cell line”.

Department of Biosciences and Territory, University of Molise.

Assistant supervisor for the experimental thesis entitled “Nerve growth factor (NGF) and its signaling pathway: a possible therapeutic approach for Niemann-Pick disease type C”.

Department of Biosciences and Territory, University of Molise.

Assistant supervisor for the experimental thesis entitled “The inhibition of proteins containing the Bromodomain and Extra-Terminal Domain (BET) reduces the accumulation of cholesterol in a Niemann-Pick disease type C cell model”.
Department of Biosciences and Territory, University of Molise.

Assistant supervisor for the experimental thesis entitled “Effect of autophagy induction on the tyrosine kinase receptors expression in a human hepatoma line”.
Department of Biosciences and Territory, University of Molise.

Assistant supervisor for the experimental thesis entitled “Inhibition of BET proteins promotes neuronal differentiation”.
Department of Biosciences and Territory, University of Molise.

PEER REVIEWED ARTICLES

1. **M. Colardo**, D. Gargano, M. Russo, M. Petraroia, D. Pensabene, G. D’Alessandro, A. Santoro, C. Limatola, M. Segatto, S. Di Bartolomeo. *Bromodomain and Extraterminal Domain (BET) protein inhibition hinders glioblastoma progression by inducing autophagy-dependent differentiation*. Int J Mol Sci 2023, 24, 7017. **IF=5.6**

2. N. Martella, D. Pensabene, M. Varone, **M. Colardo**, M. Petraroia, W. Sergio, P. La Rosa, S. Moreno, M. Segatto. *Bromodomain and Extra-Terminal proteins in brain physiology and pathology: BET-ing on epigenetic regulation*. Biomedicines 2023, 11, 750. **IF=4.7**

3. M. Gharbiya, G. Visioli, A. Trebbastoni, G.M. Albanese, **M. Colardo**, F. D'Antonio, M. Segatto, A. Lambiase. *β-amyloid peptide in tears: an early diagnostic marker of Alzheimer’s disease correlated with choroidal thickness*. Int J Mol Sci 2023, 24, 2590. **IF=5.6**

4. N. Martella, **M. Colardo**, W. Sergio, M. Petraroia, M. Varone, D. Pensabene, M. Russo, S. Di Bartolomeo, G. Ranalli, G. Saviano, M. Segatto. *Lavender essential oil modulates hepatic cholesterol metabolism in HepG2 cells*. CIMB 2023, 45(1): 364-378. **IF=3.1**

5. M. S. Spagnuolo, A. Mazzoli, M. Nazzaro, A. D. Troise, C. Gatto, C. Tonini, **M. Colardo**, M. Segatto, A. Scaloni, V. Pallottini, S. Iossa, L. Cigliano. *Long-lasting impact of sugar intake on neurotrophins and neurotransmitters from adolescence to young adulthood in rat frontal cortex*. Mol Neurobiol 2022, https://doi.org/10.1007/s12035-022-03115-8. **IF=5.1**

6. **M. Colardo**, M. Petraroia, L. Lerza, D. Pensabene, N. Martella, V. Pallottini, M. Segatto. “*NGF modulates cholesterol metabolism and stimulated ApoE secretion in glial cells conferring neuroprotection against oxidative stress*”. Int J Mol Sci 2022, 23(9), 4842. **IF=5.6**

7. **M. Colardo**, N. Martella, D. Pensabene, S. Siteni, S. Di Bartolomeo, V. Pallottini, M. Segatto. “*Neurotrophins as key regulators of cell metabolism: implications for cholesterol homeostasis*”. Int J Mol Sci 2021, 22, 5692. **IF=5.6**

8. **M. Colardo**, M. Segatto, S. Di Bartolomeo. “*Targeting RTK-PI3K-mTOR axis in gliomas: an update*”. Int J Mol Sci 2021, 22, 4899. **IF=5.6**

9. V. Pallottini, **M. Colardo**, C. Tonini, N. Martella, G. Strimpakos, B. Colella, P. Tirazza, S. Di Bartolomeo, M. Segatto. "*ProNGF/p75NTR axis drives fiber type specification by inducing the fast-glycolytic phenotype in mouse skeletal muscle cells*". Cells 2020, 9, 2232. **IF=6**

10. B. Colella, **M. Colardo**, G. Iannone, C. Contadini, C. Saiz-Ladera, C. Fuoco, D. Barilà, G. Velasco, M. Segatto, S. Di Bartolomeo. "*mTOR inhibition leads to Src-mediated EGFR internalisation and degradation in glioma cells*". Cancers 2020, 12, 2266. **IF=5.2**

11. C. Tonini, **M. Colardo**, B. Colella, S. Di Bartolomeo, F. Berardinelli, G. Caretti, V. Pallottini, M. Segatto. "*Inhibition of bromodomain and extraterminal domain (BET) proteins by JQ1 unravels a novel epigenetic modulation to control lipid homeostasis*". Int J Mol Sci 2020, 21, 1297. **IF=5.6**

NATIONAL AND INTERNATIONAL CONGRESSES

September 2023

D. Gargano, **M. Colardo**, B. Colella, C. Lopa, G. Santoro, M. Antonioli, S. Di Bartolomeo. *"Deciphering autophagy role in glioblastoma biology".* ABCD 2023 • The Biennial Congress of the Italian Association of Cell Biology and Differentiation, Paestum. (Abstract co-author)

M. Varone, N. Martella, **M. Colardo**, M. Segatto. *"Study of cholesterol metabolism in Rett syndrome: a new role for BET proteins"*. 20th SINS National Congress, Turin. (Abstract co-author)

M. Colardo, N. Martella, D. Pensabene, M. Varone, V. Pallottini, M. Segatto. "*Modulation of BET proteins promotes neuronal differentiation by inducing autophagy".* 73rd SIF National Congress, Pisa. (Poster presenter)

June 2023

N. Martella, M. Varone, **M. Colardo**, M. Segatto. *"BET inhibition attenuates cholesterol metabolism derangements in Rett syndrome"*. 68° Convegno GEI-SIBSC; Oliveri (ME). (Abstract co-author)

M. Colardo, D. Gargano, M. Russo, M. Petraroia, D. Pensabene, G. D'Alessandro, A. Santoro, C. Limatola, M. Segatto, S. Di Bartolomeo. "*Bromodomain and Extraterminal Domain (BET) Protein Inhibition Hinders Glioblastoma Progression by Inducing Autophagy-Dependent Differentiation"*. 68° Convegno GEI-SIBSC; Oliveri (ME). (Abstract co-author)

D. Gargano, **M. Colardo**, B. Colella, C. Lopa, G. Santoro, S. Di Bartolomeo. *"Autophagy role in glioblastoma oncology"*. 68° Convegno GEI-SIBSC; Oliveri (ME). (Abstract co-author)

December 2022

M. Colardo, M. Petraroia, L. Lerza, D. pensabene, N. Martella, V. Pallottini, M. Segatto. *NGF modulates cholesterol metabolism and stimulates ApoE secretion in glial cells conferring neuroprotection against oxidative stress*. Unimol, PhD Expo 2022. (Poster presenter)

July 2022

M. Colardo, M. Petraroia, D. Pensabene, L. Lerza, N. Martella, G. Venditti, M. Varone, V. Pallottini, M. Segatto. "*Cholesterol metabolism is modulated by NGF in an astrocyte-derived cell line and exhibits a neuroprotective role against oxidative stress*". FENS Forum, Paris. (Poster presenter)

May 2022

C. Tonini, **M. Colardo**, V. Pallottini, M. Segatto. "*Modulation of cholesterol biosynthetic pathway in the brain: effects on behavior and potential interference by exogenous*

compounds". Mediterranean Neuroscience Society Congress, Dubrovnik. (Abstract co-author)

N. Martella, **M. Colardo**, M. Petraroia, D. Pensabene, L. Lerza, G. Venditti, M. Varone, S. Di Bartolomeo, V. Pallottini, M. Segatto. "*Cholesterol metabolism crosstalk between glial and neuronal cells: a new role for NGF?*". 39th International Union of Physiological Societes Congress. (Abstract co-author)

S. Di Bartolomeo, M. Russo, **M. Colardo**, D. Pensabene, M. Segatto. "*Targeting RTK/PI3K/mTOR axis and autophagy in glioblastoma*". 11th Brain Tumor Meeting 2022, Berlin. (Abstract co-author)

March 2022

M. Russo, D. Pensabene, **M. Colardo**, M. Segatto, S. Di Bartolomeo. "*The BET protein inhibitor JQ1 induces autophagy and neuronal-like differentiation in glioblastoma cells*" National PhD Meeting (ABCD and SIBBM), Salerno. (Abstract co-author)

September 2021

M. Colardo, L. Lerza, N. Martella, V. Pallottini, M. Segatto. "*Nerve growth factor: a novel player in the regulation of brain cholesterol metabolism*?" XIX National Congress of the Italian Society for Neuroscience. (Poster presenter)

September 2019

B. Colella, **M. Colardo**, G. Iannone, G. Velasco, M. Segatto, S. Di Bartolomeo. "*Glioblastoma-Initiating Cells: a tool to study autophagy role in GBM pathogenesis*". ABCD Congress, Bologna. (Abstract co-author)

June 2019

B. Colella, G. Iannone, **M. Colardo**, S. Di Bartolomeo. "*Reversing Epithelial-to-Mesenchymal transition through autophagy induction in glioblastoma cells*". Ancona, Gruppo embriologico italiano (GEI). (Abstract co-author)

HONORS AND AWARDS

2023

First prize of the "STEM IS a woman" competition, organized by FIDAPA BPW Italy, Federazione Italiana Donne Arti Professioni Affari, Distretto Sud Est - Sezione di Isernia in collaboration with the University of Molise

2023 - present

Member of the SIF (Italian Society of Physiology)

2022 - present

Member of the SINS (Italian Society of Neuroscience)

EDITORIAL ACTIVITIES

Review Editor for "Frontiers in Endocrinology"

Reviewer for "Oxidative Medicine and Cellular Longevity"

Agreement

In compliance with the Italian legislative Decree no. 196 dated 30/06/2003, I hereby authorize you to use and process my personal details contained in this document.

Roccamandolfi, 25/10/2023

Mayra Colardo