

PERSONAL INFORMATION **Federica Tambaro, Ph.D.**

## EDUCATION AND TRAINING

- February 2024 **Ph.D. in Innovative Biomedical Technologies in Clinical Medicine**  
Thesis project: Translational research approach to target sarcopenia: evaluation of microRNAs as biomarkers and the role of ANGPTL3 on skeletal muscle metabolism  
Supervisors: Prof. Marcello Arca and Prof. Maurizio Muscaritoli  
Department of Translational and Precision Medicine - "La Sapienza" University of Rome – Rome, IT
- January 2019 **Master's degree in Neurobiology**  
Thesis project: Epigenetic therapy as pharmacological approach for Duchenne muscular dystrophy: impact on muscular and neurological defects  
Supervisors: Dr. Chiara Mozzetta  
"La Sapienza" University of Rome – Rome, IT
- October 2012 **Bachelor's degree in Cell and Molecular Biology**  
Dissertation project: Isolation of microRNAs precursors from murine tissues  
Supervisors: Dr. Hervé Seitz and Prof. Fabrizio Loreni  
University of Rome "Tor Vergata" – Rome, IT  
LBME-CNRS-Université "Paul Sabatier" – Toulouse, FR
- July 2004 **High School Diploma in Computer Science, Electronics and Systems**  
Istituto Tecnico Industriale Statale "Enrico Fermi" of Frascati – RM, IT

## WORKING EXPERIENCE

- November 2024 – to date **Post-doctoral fellowship**  
Department of Translational and Precision Medicine - "La Sapienza" University of Rome – Rome, IT  
Supervisor: Prof. Alessio Molfinò
- THE ENERGY CRISIS IN THE NERVE-MUSCLE SYSTEM AS A DRIVER OF CANCER CACHEXIA: INNOVATIVE MITOCHONDRIA-TARGETED STRATEGIES
- November 2023 – October 2024 **Post-doctoral fellowship**  
Department of Translational and Precision Medicine - "La Sapienza" University of Rome – Rome, IT  
Supervisor: Prof. Maurizio Muscaritoli
- Identification of circulating and tissue-specific differentially expressed microRNAs associated to cancer-related changes in body compositions.
- October 2020 – October 2023 **Ph.D Student**  
Department of Translational and Precision Medicine - "La Sapienza" University of Rome – Rome, IT  
Supervisors: Prof. Marcello Arca and Prof. Maurizio Muscaritoli
- Investigation of the role of ANGPTL3 in insulin-mediated response in skeletal muscle using a combination of different cellular and molecular methodologies.
  - Identification of circulating and tissue-specific microRNAs in sarcopenia and cancer cachexia to use as a source of predictive biomarkers with a potential use in both the research and the clinical field.

November 2019 – July 2020

### Post-MSc internship

CNR – Istituto di Biochimica e Biologia Cellulare (IBBC) of Monterotondo – RM, IT

Supervisors: Dr. Chiara Parisi

- *In vitro* studies of gene regulation mediated by non-coding RNAs.

October 2017 – January 2019

### MSc internship

Department of Biology and Biotechnology “Charles Darwin” - “La Sapienza” University of Rome – RM, IT

Supervisors: Dr. Chiara Mozzetta

- Epigenetic therapies as approach to Duchenne Muscular Dystrophy (DMD). Evaluation of the role of histone deacetylase and methyltransferase inhibitors on neurological and muscular dysfunctions in mouse models of DMD.

February 2009 – August 2009

### BSc internship - Erasmus project

Laboratoire de biologie moléculaire eucaryote (LBME) – CNRS – Toulouse, FR

Supervisors: Dr. Hervé Seitz

- Multistep purification of small RNAs from different murine tissue aimed to identify miRNAs precursors through large-scale sequencing libraries.

## PERSONAL SKILLS

### Languages

Italian – native speaker; English – fluent.

### Personal skills

Time and tasks prioritization, organization and optimization, problem solving, adaptation, leadership, empathy, aptitude for teamwork, high reliability, strong willingness to listen and in helping others.

## Technical skills and competences

### Molecular biology

PCR (conventional, RT-PCR) and qRT-PCR (Taqman based systems and Sybr), genotyping. Plasmidic DNA extraction and purification (mini and maxi- preps) and agarose gel electrophoresis. Cloning techniques. Plasmid preparation, ligation and transformation. Isolation and purification of total RNA and miRNA using TRI- and kit-based protocols. Transfection of siRNA/plasmid/adenovirus. Chromatin immunoprecipitation (ChIP). Protein purification assay, gel electrophoresis (SDS-PAGE and Western blot), subcellular protein fractionation, interaction protein-protein by Immunoprecipitation, Proximity Ligation Assay and ELISA assay.

### Cell biology

Mammalian cell cultures (primary and immortalised cells), 3D-models, co-culture models, spheroids. Transient transfection, reporter assay, fluorescent microscopy, cell cloning, cell proliferation assay and cytotoxicity assays, gene silencing.

### Microscopy

Immunohistochemistry, immunocytochemistry and immunofluorescence techniques, fluorescence and confocal microscopy.

### Animal skill

Animal colony management, husbandry and mice handling, anaesthesia and euthanasia, administer injection (ip injection, iv injection, and sc injection), and oral gavage. Stereotaxic surgery and guide cannulas implantation. Tail blood withdrawal, surgery, dissection and tissue collection. Tissue slicing (vibratome, microtome, cryostat).

### Digital skill

MS Office, Adobe Photoshop CS, ImageJ, GraphPad Prism, Image Lab. Bioinformatics databases and programs for DNA and protein sequence analysis, RNA-seq analyses, GO analysis and primers and Taqman assays design (NCBI, ENTREZ, PUBMED, OMIM, PDB, SwissProt, ClustalW, BLAST, UCSC, miRbase, miRanda, TargetScan, Enrichr, Pahtner, David, String). SPSS for statistical analysis.

## ADDITIONAL INFORMATION

## List of publications

1. **Tambaro, F.**, Gallicchio, C., Orlando, S., Carnevale, S., & Muscaritoli, M. (2025). The Conundrum of XenomiRs and Human Health. *Advances in nutrition* (Bethesda, Md.), 16(10), 100510. Advance online publication. <https://doi.org/10.1016/j.advnut.2025.100510>
2. Muscaritoli, M., Molfino, A., Orlando, S., & **Tambaro, F.** (2025). Assessing systemic inflammation and its prognostic value: Glasgow Prognostic Score, neutrophil-to-lymphocyte ratio or other options?. *Current opinion in clinical nutrition and metabolic care*, 28(5), 367–372. <https://doi.org/10.1097/MCO.0000000000001151>
3. **Tambaro, F.**, Gigante, A., Gallicchio, C., Pellicano, C., Ramaccini, C., Belli, R., Gasperini-Zacco, M. L., Rosato, E., & Muscaritoli, M. (2025). Differential modulations of miRNAs in patients with systemic sclerosis-associated skeletal muscle loss. *European journal of internal medicine*, 135, 98–107. <https://doi.org/10.1016/j.ejim.2025.03.034>
4. Molfino, A., Ambrosani, F., Udali, S., Imbimbo, G., Moruzzi, S., Castagna, A., Pattini, P., **Tambaro, F.**, Ramaccini, C., Muscaritoli, M., & Friso, S. (2024). DNA Methylation Signatures Characterize Gene Expression Modulation in Lung Cancer Patients Affected by Anorexia. *Nutrients*, 16(21), 3721. <https://doi.org/10.3390/nu16213721>
5. **Tambaro F.**, Imbimbo G., Pace V., Amabile M.I., Rizzo V., Orlando S., Lauteri G., Ramaccini C., Catalano C., Nigri G., Muscaritoli M. and Molfino A. (2024). Circulating adipose-tissue miRNAs in gastrointestinal cancer patients and their association with the level and type of adiposity at body composition analysis. *Frontiers in molecular biosciences*, 11:1449197. doi: [10.3389/fmolb.2024.1449197](https://doi.org/10.3389/fmolb.2024.1449197)
6. **Tambaro F.**, Imbimbo G., Ferraro E., Andreini M., Belli R., Amabile MI, Ramaccini C, Lauteri G, Nigri G, Muscaritoli M, Molfino A. (2024). Assessment of lipolysis biomarkers in adipose tissue of patients with gastrointestinal cancer. *Cancer Metab. Jan 2;12(1):1*. <https://doi.org/10.1186/s40170-023-00329-9>
7. Bini, S., Tramontano, D., Minicocci, I., Di Costanzo, A., **Tambaro, F.**, D'Erasmus, L., & Arca, M. (2023). How ANGPTL3 Inhibition Will Help Our Clinical Practice? *Current atherosclerosis reports*, 25(1), 19–29. <https://doi.org/10.1007/s11883-022-01076-w>
8. Molfino, A., Ambrosani, F., **Tambaro, F.**, Belli, R., Imbimbo, G., Udali, S., Moruzzi, S., Pattini, P., Ramaccini, C., Castagna, A., Muscaritoli, M., & Friso, S. (2023). Changes of gene expression in peripheral blood mononuclear cells of lung cancer patients with or without anorexia. *Clinical nutrition* (Edinburgh, Scotland), 42(1), 9–17. <https://doi.org/10.1016/j.clnu.2022.11.013>
9. Molfino, A., Belli, R., Imbimbo, G., Carletti, R., Amabile, M. I., **Tambaro, F.**, di Gioia, C. R. T., Belloni, E., Ferraro, E., Nigri, G., & Muscaritoli, M. (2022). Evaluation of Browning Markers in Subcutaneous Adipose Tissue of Newly Diagnosed Gastrointestinal Cancer Patients with and without Cachexia. *Cancers*, 14(8), 1948. <https://doi.org/10.3390/cancers14081948>
10. Bini, S., Pecce, V., Di Costanzo, A., Polito, L., Ghadiri, A., Minicocci, I., **Tambaro, F.**, Covino, S., Arca, M., & D'Erasmus, L. (2022). The Fibrinogen-like Domain of ANGPTL3 Facilitates Lipolysis in 3T3-L1 Cells by Activating the Intracellular Erk Pathway. *Biomolecules*, 12(4), 585. <https://doi.org/10.3390/biom12040585>
11. Belli, R., Ferraro, E., Molfino, A., Carletti, R., **Tambaro, F.**, Costelli, P., & Muscaritoli, M. (2021). Liquid Biopsy for Cancer Cachexia: Focus on Muscle-Derived microRNAs. *International journal of molecular sciences*, 22(16), 9007. <https://doi.org/10.3390/ijms22169007>

**Conferences**    **47<sup>th</sup> ESPEN Congress on Clinical Nutrition & Metabolism - Prague (CZ), 13-16 September 2025**

**Oral Presentation:**

- Chewing strength as a marker of sarcopenia and malnutrition in older adults

**Poster Presentation:**

- Dissecting miRNA, GDF-15, and FGF-21 signatures in cardiac cachexia

**17<sup>th</sup> International Conference of the Society on Sarcopenia, Cachexia, & Wasting Disorders – Washington DC (USA), 06-08 December 2024**

**Oral Presentation:**

- Adiposity specific micrnas in cancer patients: analysis of plasma levels according to fat distribution assessed by CT-scan

**Poster Presentation:**

- Assessing microRNAs expression in patients newly diagnosed with breast cancer and their association with changes in body composition
- Impact of miRs modulation and inflammatory response on body composition changes in patients with gastrointestinal cancer
- Different miRs patterns associate with changes in body in composition in patients with systemic sclerosis

**46<sup>th</sup> ESPEN Congress on Clinical Nutrition & Metabolism - Milan (IT), 7-10 September 2024**

**Poster Presentation:**

- MODULATION OF CIRCULATING ADIPOSE TISSUE-SPECIFIC MICRORNAS IN CANCER PATIENTS ACCORDING TO ADIPOSITY LEVEL ASSESSED BY CT-SCAN

**16<sup>th</sup> International Conference of the Society on Sarcopenia, Cachexia, & Wasting Disorders – Stockholm (SE), 17-19 June 2023**

**Poster Presentation:**

- SKELETAL MUSCLE MICRORNAS PROFILE IN PATIENTS WITH GASTROINTESTINAL CANCER

**45<sup>th</sup> ESPEN Congress on Clinical Nutrition & Metabolism – Lyon (FR), 11-14 September 2023**

**Poster Presentation:**

- Micrnas expression profile in skeletal muscle of patients with gastrointestinal cancer
- ANALYSIS OF DNA METHYLATION SIGNATURE IN LUNG CANCER PATIENTS AFFECTED BY ANOREXIA

**44<sup>th</sup> ESPEN Congress on Clinical Nutrition & Metabolism – Vienna (AT), 03-06 September 2022**

**Poster Presentation:**

- ASSESSMENT OF SKELETAL MUSCLE MICRORNAS AND SMALL NON-CODING RNAS IN PATIENTS WITH GASTROINTESTINAL (GI) CANCER
- CANCER-ASSOCIATED CACHEXIA: EVALUATION OF LIPOLYSIS MARKERS BY QRT-PCR IN SUBCUTANEOUS ADIPOSE TISSUE OF GASTROINTESTINAL CANCER PATIENTS
- DNA METHYLATION SIGNATURES IN LUNG CANCER PATIENTS AFFECTED BY ANOREXIA

#### Funding and Awards

**2024–2027 – Investigator.** “Progetti di Ricerca Grandi”, Sapienza University Research Grant 2024.  
Title: “TARGETING MUSCLE ATROPHY IN SYSTEMIC SCLEROSIS (TAMASSc): A MULTILAYER APPROACH”

**2024–2025 – PI.** “Avvio alla Ricerca – Type B”, Sapienza University Research Grant.  
Title: “Exploring molecular pathways of miRNA-mediated regulation of muscle wasting in patients with gastrointestinal cancer”

**2022–2025 – Investigator.** PNRR-Rome Technopole Flagship Project 7, funded by the European Union – Next-GenerationEU through the Italian Ministry of University and Research.  
Title: Molecular probes and techniques for live bioimaging

**2022-2025: Investigator.** “Progetti di Ricerca Grandi, bando Ricerca Scientifica Sapienza 2022”.  
Title: “Artificial Intelligence-Assisted body Composition Evaluation in patients with Gastrointestinal and GenitoUrinary malignancies (AIACE- GIGU STUDY)”

**2022-2023: PI.** “Avvio alla ricerca, tipologia B, bando Ricerca Scientifica Sapienza 2022”.  
Title: “MicroRNAs as potential target for adipose tissue lipolysis in patients with cancer cachexia”

**2021-2022: Investigator.** “Avvio alla ricerca, tipologia B, bando Ricerca Scientifica Sapienza 2021”.  
Title: “Assessment of circulating Lipocalin 2 levels in cancer-associated anorexia”

#### Scientific Society Membership

SCWD (Society on Sarcopenia, Cachexia and Wasting Disorders)  
S.I.S.A (Società Italiana per lo Studio dell’Aterosclerosi)