

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. 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.**, 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)
2. **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>
3. 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>
4. 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>
5. 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>
6. 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>
7. 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 Poster Presentation:

16th International Cachexia Conference taking place in Stockholm, 17-19 June 2023

Title: SKELETAL MUSCLE MICRORNAS PROFILE IN PATIENTS WITH GASTROINTESTINAL CANCER

45th ESPEN Congress on Clinical Nutrition & Metabolism taking place in Lyon, 11-14 September 2023

Title: Micrnas expression profile in skeletal muscle of patients with gastrointestinal cancer

Title: ANALYSIS OF DNA METHYLATION SIGNATURE IN LUNG CANCER PATIENTS AFFECTED BY ANOREXIA

44th ESPEN Congress on Clinical Nutrition & Metabolism taking place in Vienna, 03-06 September 2022

Title: ASSESSMENT OF SKELETAL MUSCLE MICRORNAS AND SMALL NON-CODING RNAS IN PATIENTS WITH GASTROINTESTINAL (GI) CANCER

Title: CANCER-ASSOCIATED CACHEXIA: EVALUATION OF LIPOLYSIS MARKERS BY QRT-PCR IN SUBCUTANEOUS ADIPOSE TISSUE OF GASTROINTESTINAL CANCER PATIENTS

Title: DNA METHYLATION SIGNATURES IN LUNG CANCER PATIENTS AFFECTED BY ANOREXIA

43th ESPEN Congress on Clinical Nutrition & Metabolism virtual, 09-14 September 2021

Title: HISTOMORPHOLOGICAL CHANGES OF WHITE ADIPOSE TISSUE IN CANCER PATIENTS WITH AND WITHOUT CACHEXIA

Funding and Awards

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"

Certifications

GCP/ICH E6 (R2) Good Clinical Practice (10/11/2022)

Memberships

Socio S.I.S.A – Società Italiana per lo Studio dell'Aterosclerosi