# LUCREZIA TUOSTO

## Education

***2023-ongoing: PhD in Network Oncology and Precision Medicine, Laboratory of Tumor Immunology and Cellular Therapies,*** *Department of Experimental Medicine, Sapienza University of Rome, Italy*

***2024: 2nd Level Master in Immuno Oncology and Cell Therapies (auditor****), Department of Experimental Medicine, Sapienza University of Rome, Italy.*

***February 2025-July 2025: Civis programme in Immuno-Oncology in the era of spatial omics,*** *Sapienza University of Rome, Italy.* ***1-week physical mobility at the CIML****, University of Aix Marseille.*

***March 2024- July 2024: Civis programme in Experimental Models in Molecular Biomedicine,*** *Sapienza University of Rome, Italy****. 1-week physical mobility at the UAM,*** *Madrid.*

***May 2023-June 2023: Civis programme in Technical Innovation: Application to Immuno-Oncology*** *Sapienza University of Rome, Italy****. 1-week internship*** *at the Platform IPC/CRCM experimental pathology (Emmanuelle Charafe laboratory), University of Aix Marseille.*

***2021–2023: Master's Degree on Medical Biotechnology (2-years),*** *interfaculty programme Pharmacy and Medicine - Medicine and Psychology, Sapienza University of Rome, Italy.* Grade: 110 with honors/110.

***2019-2021: Bachelor's degree in biotechnology (3-years),*** *cross-Faculty between Medicine and Pharmacy, Medicine and Psychology, Mathematics, Physic and Natural Sciences, Sapienza University of Rome, Italy. Grade: 110 with honors/110.*

## Employment History

***June 2022-November 2023: Internship at the Laboratory of Tumor Immunology and Cellular Therapies,*** *Department of Experimental Medicine, Sapienza University of Rome, Italy. Thesis: "CD137+ T cells as biomarker of anti-PD1 therapy response in NSCLC patients".*

**Technical Expertise**

- Isolation of PBMC from human blood of oncology patients by gradient centrifugation (Ficoll-Paque). Freezing and thawing.
- Immunophenotyping of myeloid-derived suppressor cells (MDSC), DC, T cells, regulatory T cells (Treg) and exhausted T cells by flow cytometry (FACSCanto and Dx Flex)
- Analysis of cell viability (MTT) and senescence (β-galactosidase assay)
- Cell cultures and microvesicle isolation an
- Lysis of human cells, protein extraction and western blot.
- Tumor tissue processing (glioblastoma)
- ELISA and Luminex assay

***January 2022-May 2022: Internship at the Laboratory of Molecular Oncology "A. Gulino",*** *Department of Molecular Medicine, Sapienza University of Rome, Italy*

**Technical Expertise**

- DNA / RNA extraction from human cells and patient samples.
- Real time PCR and qPCR
- Lysis of human cells, protein extraction and western blot.
- Cell transfection and analysis of endogenous and exogenous molecule interactions by immunoprecipitation and western blot.
- Genotyping of mice by electrophoresis.

***March 2021-October 2021: Internship at the Laboratory of Forensic Genetics, Department of Biology and Biotechnology "Charles Darwin", Sapienza University of Rome and Scientific Investigations Department (RIS) Rome, Italy.*** *Thesis: "Evaluation of the discrimination power of rapidly mutating Y-chromosome microsatellites".*

**Technical Expertise**

- DNA extraction from body fluids (blood, saliva)
- Real time PCR

## Publications and Posters

1. Immunomodulatory Effect of Ultrasound-Guided Cryoablation in Early Breast Cancer: Pilot Study on blood and surgical samples. Pediconi F, Galati F, Nuti M, Rizzo V, Botticelli A, Tuosto L et al. (Under revision at European Radiology Experimental)

2. Circulating CD137$^{+}$Treg cells and LOX-1$^{+}$PMN-MDSCs as biomarkers of immunotherapy resistance in (R/M) HNSCC patients. Asquino A, Cirillo A, Strigari L, Pace A, Napoletano C, Tuosto L, et al. (Under revision at Journal of Experimental & Clinical Cancer Research)

3. Sibilio P, Zizzari IG, Gelibter A, Siringo M, Tuosto L, et al. Immunological Network Signature of Naïve Non-Oncogene-Addicted Non-Small Cell Lung Cancer Patients Treated with Anti-PD1 Therapy: A Pilot Study. Cancers. 2025; 17(6):922. doi: 10.3390/cancers17060922.

4. Gelibter A, Tuosto L (co-authors), Asquino A, Siringo M, Sabatini A., Zizzari IG, et al. Anti-PD1 therapies induce an early expansion of Ki67 + CD8 + T cells in metastatic non-oncogene addicted NSCLC patients. Front. Immunol. 2024; 15:1483182. doi: 10.3389/fimmu.2024.1483182.

5. Gelibter A, Asquino A, Strigari L, Zizzari IG, Tuosto L, et al. CD137+ and regulatory T cells as independent prognostic factors of survival in advanced non-oncogene addicted NSCLC patients treated with immunotherapy as first-line. J Transl Med. 2024;22(1):329. doi: 10.1186/s12967-024-05142-6.

6. Tuosto L, Asquino A, Gelibter A, Strigari L, Zizzari I, et al. Treg/CD137+ T cell balance as a novel biomarker of survival in advanced non-addicted NSCLC patients treated with immunotherapy as first-line. Poster presentation at 6th Intl Conf Translational Immunology SIICA, Monopoli.

7. Asquino A, Cirillo A, Strigari L, Pace A, Napoletano C, Tuosto L, et al. Soluble immune biomarkers to predict clinical outcome in head and neck patients treated with immunotherapy. Poster at 36th AICC international meeting-HIJACKING THE «GOOD» PATHWAYS: cancer, immunity and therapeutic approaches.

8. Asquino A, Tuosto L, Scirocchi F. Pace A, Zizzari I, et al. Circulating CD137+ T cell subsets and MDCSs as immune biomarkers for response to anti-PD1 immunotherapy in NSCLC

patients. Poster at 35th AICC international meeting – translational and precision medicine, Aquila.

9. Asquino A, Cirillo A, Strigari L, Pace A, Napoletano C, Tuosto L, et al. Novel circulating biomarkers in HNSCC patients receiving anti-PD1 therapy: the predictive and prognostic role of immunosuppressive CD137+Treg cells and LOX-1+PMN-MDSCs. Poster at SIPMeT 2024 - Translational Pathophysiology.

## Personal Skills

• Certificate of Training "Preclinical Testing and Animal Welfare", Sapienza University of Rome
• "Work Safety" Course, Sapienza University of Rome
• "Advanced Technologies in Single Cell Omics" Course (FISV, University of Milan)
• Languages: English (First Level)
• Computer skills and competences:
- Microsoft Office™ tools (Word™, Excel™ and PowerPoint™)
- FlowJoTM software for single-cell flow cytometry analysis
- PRISM-GraphPad
- PyMol, RStudio

Autorizzo il trattamento dei miei dati personali ai sensi del D. Lgs. 30 giugno 2003, n. 196 e del Regolamento UE 2016/679 (GDPR).