



Genetics, Dept. of Biology of Biotechnology C. Darwin,
Sapienza University of Rome, 00185 Rome (Italy)

Mattia La Torre



PERSONAL STATEMENT I am a Postdoctoral fellow with good job tenure, strong communication and organizational skills gained in Life Science research. I had the opportunity to work both in vitro and in vivo during my career. I have experience in biochemistry, cellular biology and molecular biology as well as in production and characterization of transgenic mouse models.

WORK EXPERIENCE

2021 – to date **Postdoctoral fellow**

Dept. of and Biotechnology "Charles Darwin", Sapienza University, Rome (Italy)

Assigned with a research fellowship from Sapienza BeForERC. Project: When Borders Lose integrity: study of the impact of Nuclear Envelope and Telomere fragility in lymphomagenesis (BLiNET)

2020 **Postdoctoral fellow**

Dept. of Biology and Biotechnology "Charles Darwin", Sapienza University, Rome (Italy)

Supervisor: Professor Isabella Saggio. Project: AKTIP in envelopathies and cancer

2019 – 2020 **Postdoctoral fellow**

Dept. of Biology and Biotechnology "Charles Darwin", Sapienza University, Rome (Italy)

Assigned with a scholarship from FIRCA – Fondazione Italiana per la Ricerca sul Cancro – AIRC. Supervisor: Professor Isabella Saggio. Project: Nuclear envelope organization and genome instability in cancer diffusion

2019 **Postdoctoral fellow**

Dept. of Biology and Biotechnology "Charles Darwin", Sapienza University, Rome (Italy)

Assigned with a scholarship from Fondazione Adriano Buzzati-Traverso. Supervisor: Professor Isabella Saggio. Project: Biology and pharmacology of DNA replication stress upstream and downstream pathways in HGPS

2018 **Postdoctoral fellow**

Dept. of Biology and Biotechnology "Charles Darwin", Sapienza University, Rome (Italy)

PostDoc fellowship. Supervisor: Professor Isabella Saggio, funds holder (Progeria Foundation). Project: AKTIP in progeria

2017 – 2018 **Postdoctoral fellow**

Dept. of Biology and Biotechnology "Charles Darwin", Sapienza University, Rome (Italia)

Post-Doc fellowship at Institute of Molecular Biology and Pathology (IBPM) - National Research Council (CNR). Supervisors: Professor Isabella Saggio; Professor Maurizio Gatti,

funds holder (AIRC). Project: In vivo study of the protein AKTIP/Ft1

2016 – 2017 Visiting Fellow

Nanyang Technological University, Singapore (Singapore)

Visiting fellowship in the laboratory directed by Prof. Daniela Rhodes at the Institute of Structural Biology, Nanyang Technological University, Singapore. Project: Analysis of the biochemical properties of the telomeric accessory protein AKTIP/Ft1

2016 – 2017 Postdoctoral Fellow

Dept. of Biology and Biotechnology "Charles Darwin", Sapienza University, Rome (Italy)

Post-Doc fellowship. Supervisor: Professor Isabella Saggio, funds holder (Telethon). Research work: In vivo study of the protein AKTIP/Ft1

EDUCATION AND TRAINING

2012 – 2015 PhD in Pasteurian Sciences / Life Sciences

Sapienza University, Rome (Italia)

Supervisor: Prof. Isabella Saggio. Project: Production and characterization of a mouse line knockout for Ft1, a lamin interacting protein involved in telomere metabolism. In vitro dissection of AKTIP/Ft1 function in the context of telomere metabolism

2015 Visiting Graduated Student

Nanyang Technological University, Singapore (Singapore)

Visiting Graduated Studentship in the laboratory directed by Prof. Daniela Rhodes at the Institute of Structural Biology, Nanyang Technological University, Singapore. Supervisors: Prof. Isabella Saggio, Prof. Daniela Rhodes. Project: Interaction of AKTIP with binding partners

2012 Master Degree in Applied Biology to Biomedical Research

Summa cum laude

Sapienza University, Roma (Italia)

Thesis title: "Production of a mouse line knock-out for Ft1 gene, a lamin interactor with effect on telomere metabolism". Thesis project coordinator: Prof. Isabella Saggio, Department of Biology and Biotechnologies "Charles Darwin", Sapienza University of Rome

2011-2012 Student trainee

Sapienza University, Rome (Italia)

Student training in Professor Isabella Saggio laboratory, Department of Biology and Biotechnologies "Charles Darwin", Sapienza University of Rome

2010 Bachelor Degree in Molecular Biology

Summa cum laude

University of Pisa, Pisa (Italy)

Bachelor degree thesis title: "Modulation of Cytochromes P450 4A and 2E in organs of control and fed with high fat diet pigs". Thesis project coordinators: Dr. Vincenzo Longo, Institute of Biology and Agrarian Biotechnology, CNR; Professor Marcella Camici, University of Pisa

2010 Student trainee

University of Pisa, Pisa (Italy)

Student training, Institute of Biology and Agrarian Biotechnology, CNR, Pisa. Training coordinator Dr. Vincenzo Longo

2009-2010 USID studentship

University of Pisa, Pisa (Italy)

Scholarship for academic support for person with physical disability, University of Pisa

PERSONAL SKILLS

Mother

tongue(s) Italian

	SPEAKING	
Reading	Spoken interaction	Spoken production

Foreign language(s) UNDERSTANDING WRITING Listening

English C1 C1 C1 C1 C1 Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user

Common European Framework of Reference for Languages

Communication skills Good communication skills gained through my experience in conferences participation and formal and informal meeting training

experience with ministerial protocol for animal care and experimental procedure.

Organisational / managerial skills

Administrative skills: Deep experience with office-related tasks (strategic planning and placing of laboratory orders). Deep

Tutoring skills: Deep experience in student trainee and thesis production

Job-related skills **General Biochemistry techniques:** Bacterial Transformation, Protein expression in bacteria, Protein

purification (size exclusion, ion exchange and affinity

chromatography), Protein protein interaction assays (GST-pull down, size exclusion chromatography), Protein DNA interactions (EMSA), Protein extraction from mammalian cells, Protein SDS page protein separation, Immunoprecipitation

Mammalian cell-culture techniques: Transfection (plasmids, oligos), RNA-interference technique, 2nd and 3rd generation lentivectors production, Lentivectors mediated cells transduction, Mammalian cell culture

General Molecular biology techniques: PCR, RT-PCR, q-PCR, RNA extraction from cells and tissues, Plasmid DNA Purification (Maxiprep, Midiprep, Miniprep), Restriction Map analysis, Genomic DNA isolation from cells and tissues, Immunofluorescence on mammalian cell

Animal Models: Ministerial protocol procedures in good animal practices, Mouse model study and design, Mouse colony management, Mouse manipulation, Genotyping by PCR analysis, Tissue collection for histology analysis, Preparation of paraffin and OCT embedded tissues samples for histology analysis, Preparation of tissue slides for histology analysis, Tissue coloration, Immunohistochemistry

Computer methods for molecular biology: software and on-line packages for DNA and protein sequence analysis, database similarity searches

Computer methods for data visualization and analysis: Adobe suite (Photoshop, Illustrator, Indesign, Camera Raw), Imagej, Imagemlab, Office package (Word, PowerPoint, Excel), Prism, GalaxyLab

Digital skills SELF-ASSESSMENT

Information processing
Communic

Proficient
Problem solving

Proficient user Proficient user

Digital skills - Self-assessment grid

Windows and Mac Os X, Microsoft Office package suite, Adobe Package Suite, Web browsers: Safari, Firefox, Chrome, Internet Explorer, GeneAmp700, Quantity one, GraphPad Prism, Image J, Endnote X7, U-GOV platform, MEPA platform

ADDITIONAL INFORMATION

Teaching and academic activities

2012 – to date: Supervisor of students in their undergraduate and PhD projects, Dept. of Biology and Biotechnology "Charles Darwin", Sapienza University, Rome (Italy), PI Professor Isabella Saggio.

2014 – to date: Tutoring for post-graduate course "La scienza", University of Rome. Director: Isabella Saggio

2014 – 2020: Tutoring for the Master Degree courses on "Gene

Therapy" Sapienza University of Rome

2018 – to date: Seminars on 'Crispr applications' and tutoring for post graduate course "U Stem Master", Sapienza University of Rome. Director: Antonio Musarò

2018 – 2020: Seminars on 'Crispr applications' and exam preparation and tutoring for the Master's degree courses on "Gene Therapy", "Stem cell biology and applications", "Gene therapy and neuroscience", Sapienza University of Rome

Institutional responsibilities 2019 – to date: Member of the Council of the Dept. of Biology and Biotechnology "Charles Darwin", Sapienza University, Rome (Italy)

2018: Member of the AGI (Associazione Genetica Italiana)

Memberships of scientific societies

Fellowships and awards 2021: Assigned with a scholarship from SapiExcellence BeForERC with BLiNET project. Dept. of Biology and Biotechnology "Charles Darwin", Sapienza University, Rome (Italy)

Supervisor: Professor Isabella Saggio. Project: BLiNET When Borders Lose integrity: study of the impact of Nuclear Envelope and telomere fragility in lymphomagenesis

2019 – 2020: Assigned with a scholarship from FIRC – Fondazione Italiana per la Ricerca sul Cancro – AIRC. Supervisor: Professor Isabella Saggio. Project: Nuclear envelope organization and genome instability in cancer diffusion. Dept. of Biology and Biotechnology "Charles Darwin", Sapienza University, Rome (Italy)

2019: Assigned with a scholarship from Fondazione Adriano Buzzati-Traverso. Supervisor: Professor Isabella Saggio. Project: Biology and pharmacology of DNA replication stress upstream and downstream pathways in HGPS. Dept. of Biology and Biotechnology "Charles Darwin", Sapienza University, Rome (Italy)

Bibliometric Parameters H-index (2015-2021): 7

Total Citations (2015-2021): 120

Publications (2015-2021): 11

Source: Scopus

- Publications**
1. Chiara Merigliano, Romina Burla, **Mattia La Torre**, Simona Del Giudice, Hsiang Ling Teo, Chong Wai Liew, Wah Ing Goh, Alexandre Chojnowski, Yolanda Olmos, Irene Chiolo, Jeremy G Carlton, Domenico Raimondo, Fiammetta Verni, Colin Stewart, Daniela Rhodes, Graham D Wright, Brian Burke, Isabella Saggio. AKTIP interacts with ESCRT I and is needed for the recruitment of ESCRT III subunits to the midbody. *Plos Genetics*, August 2021
 2. Romina Burla, **Mattia La Torre**, Klizia Maccaroni, Fiammetta Verni, Simona Giunta, Isabella Saggio. Interplay of the nuclear envelope with chromatin in physiology and pathology. *Nucleus*, August 2020
 3. Domenico Raimondo, Cristina Remoli, Letizia Astrologo, Romina Burla, **Mattia La Torre**, Fiammetta Verni, Enrico Tagliafico, Alessandro Corsi, Simona Del Giudice, Agnese Persichetti, Giuseppe Giannicola, Pamela G Robey, Mara Riminucci, Isabella Saggio. Changes in gene expression in human skeletal stem cells transduced with constitutively active Gs α correlates with hallmark histopathological changes seen in fibrous dysplastic bone. *Plos one*, January 2020
 4. *Romina Burla[†], **Mattia La Torre**[†], Giorgia Zanetti, Alex Bastianelli, Chiara Merigliano, Simona del Giudice, Alessandro Vercelli, Ferdinando Di Cunto, Marina Boido, Fiammetta Verni and Isabella Saggio. p53-sensitive epileptic behavior and inflammation in Ft1 hypomorphic mice. *Frontiers in Genetics*, November 2018 ([†] co-first authorship)
 5. Chiara Merigliano, Elisa Mascolo, **Mattia La Torre**, Isabella Saggio, Fiammetta Verni. Protective role of vitamin B6 (PLP) against DNA damage in *Drosophila* models of type 2 diabetes. *Scientific reports*, July 2018
 6. Romina Burla, **Mattia La Torre**, Chiara Merigliano, Fiammetta Verni and Isabella Saggio. Genomic instability and DNA replication defects in progeroid syndromes. *Nucleus*, June 2018
 7. ***Mattia La Torre**, Chiara Merigliano, Romina Burla, Carla Mottini, Giorgia Zanetti, Simona Del Giudice, Mariateresa Carcuro, Ilaria Virdia, Elisabetta Bucciarelli, Isabella Manni, Gianluca Rampioni Vinciguerra, Giulia Piaggio, Mara Riminucci, Ana Cumano, Armando Bartolazzi, Fiammetta Verni, Silvia Soddu, Maurizio Gatti, Isabella Saggio. Mice with reduced expression of the telomere-associated protein Ft1 develop p53-sensitive progeroid traits. *Aging Cell*, April 2018
 8. Romina Burla; Mariateresa Carcuro; **Mattia La Torre**; Federica Fratini, Marco Crescenzi; Maria Rosaria D'Apice; Paola Spitalieri; Grazia Daniela Raffa; Letizia Astrologo; Giovanna Lattanzi; Enrico Cundari; Domenico Raimondo; Maurizio Gatti; Isabella Saggio. The telomeric protein AKTIP interacts with A- and B-type lamins and is involved in regulation of cellular senescence. *Open Biology*, August 2016
 9. Romina Burla; **Mattia La Torre**; Isabella Saggio. Mammalian telomeres and their
 10. Romina Burla; Mariateresa Carcuro; Grazia Raffa; Alessandra Galati; Domenico Raimondo; Angela Rizzo; **Mattia La Torre**; Emanuela Micheli; Laura Ciapponi; Giovanni Cenci; Enrico Cundari; Antonio Musio; Annamaria Biroccio; Stefano Cacchione; Maurizio Gatti; Isabella Saggio, AKTIP/Ft1, a new shelterin-interacting factor required for telomere maintenance', *Plos Genetics*, June 2015
 11. Stefania Piersanti, Romina Burla, Valerio Licursi, Catarina Brito, **Mattia La Torre**, Paula Alves, Daniel Simao, Carla Mottini, Sara Salinas, Rodolfo Negri, Enrico Tagliafico, EJ Kremer, and Isabella Saggio, Transcriptional response of human neurospheres to helper-dependent CAV-2 vectors: activation of DNA damage response, modulation of microtubule motors and centromeric proteins, *Plos One*, July 2015

Participation to National and International Research Projects partnership with lamins, *Nucleus*, April 2016

*first/co-first authorship

telomeric protein AKTIP in HGPS. PI Isabella Saggio

2021 – to date: AIRC charity project. Nuclear envelope and telomere instability in lymphomagenesis. PI Isabella Saggio

2015 – 2018: AIRC charity project. Telomeric genes from *Drosophila* to man. PI Isabella Saggio

2016: Telethon charity EG project. AKTIP and laminopathies. PI Isabella Saggio

2016: Progeria Research Foundation. The lamin-interacting

2016: Sapienza Grant, Analysis of the hematopoietic and stromal BM subsets in mouse models of premature aging: Supervisor: Prof. Isabella Saggio

2019: Sapienza Grant, Control of nuclear fragility, Supervisor: Prof. Isabella Saggio

Grants

2021: Sapienza Research Starting Grant, PI

2021: Sapienza SapiExcellence BeForERC, BLiNET, PI

2019: Sapienza Research Starting Grant, PI

2016: Sapienza Research Starting Grant, PI

Conferences

- Mattia La Torre**, Romina Burla, Chiara Merigliano, Teo Hsiang Ling, Liew Chong Wai, Fiammetta Verni, Daniela Rhodes, Isabella Saggio, “AKTIP a telomeric and ESCRT complex associated factor”. Poster at EMBO Workshop, Telomere biology in health and human disease, May 01-06, 2018, Tróia, Portugal
- Romina Burla, **Mattia La Torre**, Giorgia Zanetti, Simona Del Giudice, Chiara Merigliano, Teo Hsiang Ling, Liew Chong Wai, Daniela Rhodes, Maurizio Gatti, Fiammetta Verni, and Isabella Saggio “Triangle connection of the E2 variant protein AKTIP with lamins and telomeres in generating a p53-sensitive progeroid phenotype”. Poster at Cold Spring Harbor Laboratory, Telomeres and Telomerase, May 02-06, 2017, Cold Spring Harbour, NY, USA
- Romina Burla, **Mattia La Torre**, Giorgia Zanetti, Simona Del Giudice, Fiammetta Verni and Isabella Saggio, “The lamin-interacting protein AKTIP in progeroid syndromes”. Poster at 3rd skeleton meeting, March 12-13, 2017 Riva del Garda, Italy
- Romina Burla, **Mattia La Torre**, Maria Teresa Carcuro, Grazia Daniela Raffa, Maurizio Gatti, Isabella Saggio. AKTIP (Ft1), a telomeric protein that interacts with lamin, is required for mouse survival and development. Cold Spring Harbor Laboratory conference, Telomeres and Telomerase, April 28 – May 2, 2015, Cold Spring Harbour, NY, USA
- Giorgia Zanetti; Romina Burla; **Mattia La Torre**; Carla Mottini; Simona Del Giudice; Domenico Raimondo; Maurizio Gatti; Isabella Saggio. “AKTIP (Ft1), a protein that interacts with lamins, is required for telomere maintenance and mouse development”. Oral presentation at FISV 2016, September 20-23, “Sapienza” Università di Roma, Roma, Italy
- Mattia La Torre**, Romina Burla; Mariateresa Carcuro; Grazia Raffa; Alessandra Galati; Domenico Raimondo; Angela Rizzo; Emanuela Micheli; Laura Ciapponi; Giovanni Cenci; Enrico Cundari; Antonio Musio; Annamaria Biroccio; Stefano Cacchione; Maurizio Gatti; Isabella Saggio. Oral presentation at BeMM symposium 2015, PhD cycle XXVII. “The telomeric protein Ft1 (AKTIP) plays a role in mouse physiology”, 23 January 23, “Sapienza” University of Rome, Rome, Italy
- Mattia La Torre**, Romina Burla; Mariateresa Carcuro; Grazia Raffa; Alessandra Galati; Domenico Raimondo; Angela Rizzo; Emanuela Micheli; Laura Ciapponi; Giovanni Cenci; Enrico Cundari; Antonio Musio; Annamaria Biroccio; Stefano Cacchione; Maurizio Gatti; Isabella Saggio. Oral presentation at EMBO Meeting, Telomeres, Telomerase and Disease, “AKTIP, an E2 variant enzyme that interacts with lamin, is required for correct telomere maintenance”, April 30 – May 4, 2014, Brussels, Belgium