

ESPERIENZE PROFESSIONALI

- 01/06/2024 – 28/02/2026 **Post-Doctoral Researcher**
Institute of Biochemistry and Cell Biology (IBBC) – CNR, Monterotondo (RM), Italia
Project: Combined therapies in a Ptch1+/-/Tis21KO mouse model of medulloblastoma by eliminating cancer cells with anti-ErbB2/4 CAR- T lymphocytes and by a prodifferentiative treatment with chemokine Cxcl3 (PRIN2022-MBNEWTHERAPY)
Supervisor: Dr. Laura Micheli (IBBC-CNR)
- 01/06/2022 – 31/05/2024 **Post-Doctoral Researcher**
Institute of Biochemistry and Cell Biology (IBBC) – CNR, Monterotondo (RM), Italia
Project: Study of activation by neurogenic stimuli of neural stem cells in adult neurogenic niches and the cerebellum, and the pathophysiology inherent in these processes
Supervisor: Dr. Felice Tirone (IBBC-CNR)
- 01/06/2021 – 31/05/2022 **Post-Doctoral Researcher funded by the Umberto Veronesi Foundation's Fellowship (FUV)**
Institute of Biochemistry and Cell Biology (IBBC) – CNR, Monterotondo (RM), Italia
Project: The use of Hydroxytyrosol, a phenolic compound of extra virgin olive oil, to improve the learning capacities
Supervisor: Dr. Felice Tirone (IBBC-CNR)
- 01/09/2020 – 31/05/2021 **Post-Doctoral Researcher**
Institute of Biochemistry and Cell Biology (IBBC) – CNR, Monterotondo (RM), Italia
Project: Relapsed Medulloblastoma: Molecular studies in new preclinical models for new therapies in humans.
Supervisor: Dr. Felice Tirone (IBBC-CNR)
- 01/09/2020 – 31/05/2021 **Post-Doctoral Researcher funded by the Buzzati-Traverso Foundation's Fellowship (n°826)**
Institute of Biochemistry and Cell Biology (IBBC) – CNR, Monterotondo (RM), Italia
Project: Study of molecular mechanism of the anti-proliferative gene Btg1 in the modulation of the cancer stem cells of Medulloblastoma
Supervisor: Dr. Felice Tirone (IBBC-CNR)
- 15/11/2014 – 31/10/2016 **Post-Graduate Researcher**
Institute of Neurobiology and Cell Biology (IBCN) – CNR, Rome, Italy
Project: Study of Btg genes in the neurogenesis
Supervisor: Dr. Felice Tirone (IBBC-CNR)

FORMAZIONE

- 01/11/2016 – 18/05/2020 **PhD in Ecology and Sustainable Management of Environmental Resources**
University of Tuscia, Viterbo, Italy
Project: Hydroxytyrosol, a phenolic compound present in extra virgin olive oil and in olive mill waste-water, stimulates the adult and aged hippocampal neurogenesis.
Vote: Excellent
Supervisor: Dr. Felice Tirone (IBBC-CNR), Dr. Carla Caruso (DEB-University of Tuscia)
- 01/10/2011 – 12/03/2014 **Master's Degree in Molecular and Cellular Biology**
University of Tor Vergata, Rome (Italy)
Thesis: The role of anti-proliferative protein BTG1 in development of cerebellum and in the control of cell cycle.
Vote: 110/110 *cum laude*
Supervisor: Dr. Felice Tirone (IBBC-CNR)
- 01/10/2008 – 07/10/2011 **Bachelor's Degree in Biological Sciences**
University of Tor Vergata, Rome, Italy
Thesis: Optimization of production of infectious particles of λ bacteriophage from Salmonella typhimurium
Vote: 110/110 *cum laude*

Supervisor: Dr. Luciano Paolozzi (University of Tor Vergata)

WORKSHOP E CERTIFICAZIONI

- 2022 **Animal Biology and Management (Rodents and Lagomorphs)**
Experimental Zooprophyllactic Institute of Lombardy and Emilia Romagna
- 2018 **FELASA - Science of Laboratory Animals 3**
CERC Santa Lucia Foundation, Rome, Italy
- 2018 **Advanced Statistics in Biomedical Research**
National Research Council, Rome, Italy (2017)
- 2016 **Basic Statistics in Biomedical Research.**
CERC Santa Lucia Foundation, Rome, Italy

COMPETENZE PROFESSIONALI

Molecular and Cell Biology

PCR amplification, cloning, and sequence analysis. Bacterial transformation, plasmid DNA extraction, and eukaryotic cell culture techniques. RNA extraction, Real-Time PCR, luciferase assays. Protein extraction, Western blotting, and immunoprecipitation for protein expression and interaction studies. RetroVirus and Lentivirus Production. Experienced in immunofluorescence assays for analyzing protein localization in cell lines and animal tissues.

In Vivo

Animal Handling: Skilled in the management and genotyping of mouse lines.

Surgical and Experimental Procedures: Expertise in intraperitoneal injections, transcardial perfusion, and subsequent brain and skeletal muscle analysis

Data Analysis and Software

- *Image Analysis:* Skilled in using ImageJ and IAS (Delta Sistemi) for analyzing biological images.
- *Statistical Analysis:* Experienced with GraphPad Prism and QuantStudio5 for statistical evaluation of experimental results.
- *Bioinformatics:* Knowledgeable in Cytoscape and CellDesigner for modeling and analyzing biological networks.
- *Design Software:* Proficient in Adobe Photoshop and Illustrator for preparing scientific figures and illustrations.
- *General IT Skills:* Advanced user of Microsoft Office Suite (Word, Excel, PowerPoint) for documentation and presentations.

Languages

- Italian (Native)
- English

Personal And Professional

Motivated, Determined, Adaptable, Problem-Solving skills, Time management and organization skills, Strong communication abilities Team Work

PUBBLICAZIONI

- **2025.** Survey of transcriptome analyses of hippocampal neurogenesis with focus on adult dentate gyrus stem cells. *Front Cell Dev Biol*, 13:1605116. doi: 10.3389/fcell.2025.1605116
- **2025.** Intracerebellar administration of the chemokine Cxcl3 reduces the volume of medulloblastoma lesions at an advanced stage by promoting the migration and differentiation of preneoplastic precursor cells. *Brain Pathol*, 35(1):e13283. doi: 10.1111/bpa.13283
- ***2023.** Transcriptome analysis reveals genes associated with stem cell activation by physical exercise in the dentate gyrus of aged p16Ink4a knockout mice. *Front Cell Dev Biol*, 11:1270892. doi: 10.3389/fcell.2023.1270892
- **2021.** Transcriptome analysis in a mouse model of premature aging of dentate gyrus: rescue of alpha-synuclein deficit by virus-driven expression or by running restores the defective neurogenesis. *Front Cell Dev Biol*. doi: 10.3389/fcell.2021.696684

- **2021.** Tumor growth in the high-frequency medulloblastoma mouse model *Ptch1+/-/Tis21KO* has a specific activation signature of the PI3K/AKT/mTOR pathway and is counteracted by the PI3K inhibitor MEN1611. *Front Oncol.* doi: 10.3389/fonc.2021.692053
- **2020.** Interaction between neurogenic stimuli and the gene network controlling the activation of stem cells of the adult neurogenic niches, in physiological and pathological conditions. *Front Cell Dev Biol*, 8:211. doi: 10.3389/fcell.2020.00211
- **2020.** Deletion of *Btg1* induces *Prmt1*-dependent apoptosis and increased stemness in *Shh*-type medulloblastoma cells without affecting tumor frequency. *Front Oncol*, 10:226. doi: 10.3389/fonc.2020.00226
- ***2020.** Hydroxytyrosol stimulates neurogenesis in aged dentate gyrus by enhancing stem and progenitor cell proliferation and neuron survival. *FASEB J*, 34(3):4512–4526. doi: 10.1096/fj.201902643R
- ***2019.** *P16Ink4a* prevents the activation of aged quiescent dentate gyrus stem cells by physical exercise. *Front Cell Neurosci.* doi: 10.3389/fncel.2019.00010
- **2018.** Depression and adult neurogenesis: positive effects of the antidepressant fluoxetine and of physical exercise. *Brain Res Bull.* doi: 10.1016/j.brainresbull.2018.09.002
- **2018.** Fluoxetine or *Sox2* reactivate proliferation-defective stem and progenitor cells of the adult and aged dentate gyrus. *Neuropharmacology*, 141:316–330. doi: 10.1016/j.neuropharm.2018.08.022
- **2017.** Terminal differentiation of adult hippocampal progenitor cells is a step functionally dissociable from proliferation and is controlled by *Tis21*, *Id3* and *NeuroD2*. *Front Neurosci.* doi: 10.3389/fncel.2017.00186
- ***2017.** *HDAC1*, *HDAC4* and *HDAC9* bind to *PC3/Tis21/Btg2* and are required for its inhibition of cell cycle progression and cyclin D1 expression. *J Cell Physiol.* doi: 10.1002/jcp.25467
- ***2015.** Altered cerebellum development and impaired motor coordination in mice lacking the *Btg1* gene: involvement of cyclin D1. *Dev Biol*, 408:109–125. doi: 10.1016/j.ydbio.2015.10.003

** publications indicate those where I am first or co-first author.*

CONFERENZE

- **Hydroxytyrosol mitigates anxiety-like behaviors in old mice.** WORKSHOP NUTRAGE, May 2024.
- **Intracerebellar administration of *Cxcl3* prevents neoplastic transformation of cerebellar precursor cells.** CNR-DSB Conference, April 2022.
- **Hydroxytyrosol stimulates neurogenesis in aged dentate gyrus.** FENS Forum of European Neuroscience, July 2020.
- **Preclinical studies in new medulloblastoma animal models.** EPTRI open meeting, April 2020.
- ***p16Ink4a* prevents activation of aged quiescent stem cells by physical exercise.** 18th National Congress of the Italian Society for Neuroscience, September 2019.
- **The chemokine *Cxcl3* regulates migration of cerebellar precursors.** 9th FENS Forum of European Neuroscience, July 2014.