

**SERENA
MANCARELLA**

DATE OF BIRTH:



CONTACT

Nationality: Italian

Gender: Female



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WORK EXPERIENCE

21/12/2017 – CURRENT

Research fellow

IRCCS "S. De Bellis

Research contract entitled "Targeting Notch Pathway for Personalizing Therapy in Cholangiocarcinoma " Main Activities: Validate new biological therapies in experimental models with hepatobiliary neoplasms; set up in vivo xenograft experimental models with drug-resistant clones previously selected from hepatobiliary cell cultures and to analyze the response pathway to different drugs; identify biomarkers to select patients with hepatobiliary tumors early responsive to various drugs.

Castellana Grotte (BA), Italy

17/10/2018 – 13/12/2018

Visiting Scientist

The institute of Cancer Research

To obtain skills on three-dimensional cultures from patient biopsies <https://webgate.acceptance.ec.europa.eu/europass/eportfolio/apitissues>, specially, to test the gamma-secretase inhibitor (LY3039478) on Patient Derived Organoids (PDO) of Cholangiocarcinoma (CCA).

Institute of Cancer Research, London, United Kingdom

29/07/2017 – 04/03/2018

Visiting Ph.D student

Vanderbilt University - Department of Biochemistry

Investigate the dynamics of response to the drug LY3039478 in cholangiocarcinoma, at the clonal level and single cell, quantifying them through computational analysis.

-Engineering of cholangiocarcinoma cells to let them express the nuclear protein (histoneH2B) conjugated to the red monomeric fluorescent protein to allow the identification of the nuclei of individual cells.

- Elaboration of the image segmentation output (enumeration of cell nuclei) from digital imaging data of fluorescence microscopy from a Synentec Cellavista bioimager generating growth curves DIP rate (population-induced proliferation rate) of the population, adopting a log-logistic model to dose-response curves with DIP rate packages on the R tool

- Quantitative molecular analysis (qRT-PCR) of the time oscillation of the expression of the target gene (HES1) of the Notch Pathway.

Research period abroad PhD program.

Nashville, United States

EDUCATION AND TRAINING

13/03/2020

Certificate: Big Data, Genes, and Medicine

The State University of New York and offered through Coursera

2019

Enabling at professional Biologist

Sez. A second session 2019, University of Salento (Lecce, Italy)

2017 – Nashville (TN), United States

Certificate of Completion

Vanderbilt University - 2017 CQS SUMMER INSTITUTE

- Bioinformatics II: Discovery Oriented Data Science

- Biostatistics II

07-05-2021

- Biosafety 101: Standard Microbiological Practices (revised 10)
<https://webgate.acceptance.ec.europa.eu/europass/eportfolio/api2016>)

- Working Safely with Human-Derived Materials in the Lab

- Bloodborne Pathogens

01/11/2014 – 08/03/2018 – Bari, Italy

Ph.D in Transplantation of tissues and organs and cell therapies.

University of Bari " Aldo Moro"

Thesis Title: "Role of the microenvironment in conditioning the pharmacological resistance in malignant hepatobiliary neoplasms"

Supervisor: Prof. Gianluigi Giannelli.

In vitro studies on cell lines of hepatocellular carcinoma (HCC) on the involvement of Laminin-332 and Integrin $\alpha 3 \beta 1$ in the mechanism of resistance to Sorafenib.

In vitro studies on cell lines of cholangiocarcinoma (CCA) in order to investigate the efficacy of LY3039478 inhibitor on Notch pathway.

LABORATORY COMPETENCES:

- Cell cultures and tissues of CCA and HCC

- Tissue homogenization

- Use of cryostat and microtome

- Cytotoxicity test on cell cultures

- Proliferation and migration assays

- Isolation of cells from peripheral tissue and blood

- Extraction of nucleic acids (DNA, RNA)

- Western blot and densitometric analysis

- RT-PCR

- Immunoprecipitation

- Immunohistochemistry on cells and tissues

- Immunofluorescence on cells and tissues

- ELISA

2010 – 2013 – Lecce, Italy

Master's Degree in Medical Biotechnology and Nanobiotechnology

University of Salento – Faculty of Physical and Natural Mathematical Sciences

Stage for Master's Degree; Title of the thesis in nanofabrication methods and nanoscale analysis for advanced biotech: "Development and characterization of nano-engineered microcapsule for Resveratrol cancer targeting" .

Synthesis and characterization of magnetic microcarriers and nanocarriers for the delivery of antitumor drugs in tumor cell lines by Transmission Electron Microscopy (TEM), Scanning Electron Microscopy (SEM), Dynamic Light Scattering (DLS).

LABORATORY COMPETENCES:

- Synthesis of micro-nanoparticles

- Characterization of micro-nanoparticles with DLS

- Cell culture

- Spectrophotometer

- MTT test

- Trypan Blue

2006 – 2010 – Lecce, Italy

Bachelor's Degree in Biotechnology

University of Salento - Faculty of Physical and Natural Mathematical Sciences

Stage for Bachelor's Degree; Title of the experimental thesis in Hygiene:
"Typing of influenza Ahttps://webgate.acceptance.ec.europa.eu/europass/eportfolio/apiH1N1v".

Identification and typing of the H1N1v pandemic virus using a rapid molecular biology technique (Real-Time PCR). The method was developed on samples from subjects with suspected flu during the 2009-2010 season flu.

LABORATORY COMPETENCES:

- PCR

- Agarose Gel Electrophoresis

LANGUAGE SKILLS

MOTHER TONGUE(S): Italian

OTHER LANGUAGE(S):

English

Listening
B1

Reading
B1

**Spoken
production**
B1

**Spoken
interaction**
B1

Writing
B1

PUBLICATIONS

Publications

1. Proteoglycan-4 is correlated with longer survival in HCC patients and enhances sorafenib and regorafenib effectiveness via CD44 in vitro. Dituri F, et al. Cell Death Dis. 2020 Nov 16;11(11):984.
2. Impaired Anti-Tumor T cell Response in Hepatocellular Carcinoma. Chaoul N, et al. Cancers (Basel). 2020 Mar 8;12(3). pii: E627.
3. Crenigacestat, a selective NOTCH1 inhibitor, reduces intrahepatic cholangiocarcinoma progression by blocking VEGFA/DLL4/MMP13 axis. Mancarella S, et al. Cell Death Differ. 2020 Feb 10.
4. Validation of Hepatocellular Carcinoma Experimental Models for TGF- β Promoting Tumor Progression. Mancarella S, et al. Cancers(Basel). 2019 Oct 9;11(10) pii: E1510.Review.
5. Calcium Regulates HCC Proliferation as well as EGFR Recycling/ Degradation and Could Be a New Therapeutic Target in HCC. Modica TME, et al. Cancers (Basel). 2019 Oct 18;11(10). pii: E1588.
6. The interactivity between TGF β and BMP Signaling in Organogenesis, Fibrosis and Cancer. Dituri F, et al. Cells. 2019 Sep 23;8(10). pii: E1130. Review.
7. Signalling Networks in Cholangiocarcinoma: Molecular pathogenesis, targeted therapies and drug resistance. Fouassier L, et al. Liver Int. 2019 May;39 Suppl 1:43-62. Review.
8. TGF β as Multifaced Orchestrated in HCC Progression: Signaling, EMT, Immune Microenvironment, and Novel Therapeutic Perspectives. Dituri F, et al. Semin Liver Dis. 2019 Feb;39(1):53-69. Epub 2018 Dec 26. Review.
9. Epigenetic upregulation and functional role of the mitochondrial aspartate/glutamate carrier isoform 1 in hepatocellular carcinoma. Infantino V, et al. Biochim Biophys Acta Mol Basis Dis. 2019 Jan;1865(1):38-47. Epub 2018 Oct 12.
10. TGF-B and the Tissue Microenvironment: Relevance in Fibrosis and Cancer. Caja L, et al. Int J Mol Sci. 2018 Apr26;19(5). pii: E1294. Review.
11. Galunisertib suppresses the staminal phenotype in hepatocellular carcinoma by modulating CD44 expression. Rani B, et al. Cell Death Dis. 2018 Mar 7;9(3):373.
12. Precision medicine for hepatocellular carcinoma using molecular pattern diagnostics: results from a preclinical pilot study. Agarwal R, et al. Cell Death Dis. 2017 Jun 8;8(6):e2867.
13. NGS-based transcriptome profiling reveals biomarkers for companion diagnostics of the TGF- β receptor blocker galunisertib in HCC. Cao Y, et al. Cell Death Dis. 2017 Feb 23;8(2):e2634.
14. Hepatic stellate cells induce hepatocellular carcinoma cell resistance to sorafenib through the laminin-332/ α 3 integrin axis recovery of focal adhesion kinase ubiquitination. Azzariti A, et al. Hepatology. 2016 Dec;64(6):2103-2117. Epub 2016 Oct 27.
15. Polymer-Coated Magnetic Nanoparticles for Curcumin Delivery to Cancer Cells. Mancarella S, Get al. Macromol Biosci. 2015 Oct; 15(10):1365-74. Epub 2015 Jun 17.
16. Biological Applications of LbL Multilayer Capsules: From Drug Delivery to Sensing. L. L. del Mercato, et al. Adv Colloid Interface Sci. 2014 May;207:139-54.Epub 2014 Feb 21. Review.

ORGANISATIONAL SKILLS

Organisational skills

Good analysis and teamwork skills in multiple situations where collaboration between different figures is indispensable. Additionally, personal characteristics such as determination and being able to organize the work autonomously, defining priorities and assuming responsibility in relation to the goals set.

COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills

Good ability to work in groups

JOB-RELATED SKILLS

Job-related skills

Good general knowledge of biological systems, interpreted in a molecular and cellular, that allows me to develop a professional skills learned during the various laboratory experiments for university education at the University of Lecce and during the PhD at the University of Bari and the IRCCS "S. De Bellis" in Castellana Grotte (Ba).

Excellent knowledge of the standard instrumentation of biological laboratories such as: Microscopes, Spectrophotometers, Electronic Balances, Pipettes, Centrifuges, Microtomes, Cryostats etc.

REFERENZE

Referenze

Prof. Gianluigi Giannelli, Scientific Director of

National Institute of Gastroenterology, "S de Bellis" Research Hospital, Castellana Grotte, Italy email: gianluigi.giannelli@irccsdebellis.it

Prof. Stefano Leporatti, PhD Senior Researcher (First Ricercatore CNR, Associate Professor Equivalent) NanoCarriers and BioMechanics Group Leader NNL, Lecce, Italy

email: stefano.leporatti@nano.cnr.it, stefano.leporatti@unisalento.it
web:<https://webgate.acceptance.ec.europa.eu/europass/eportfolio/apihttps://webgate.acceptance.ec.europa.eu/europass/eportfolio/apiwww.cnr.nano.it>

SEMINARI E WORKSHOP

Seminari e Workshop

AMMF Virtual 2021 European CCA Conference, 13-14 May 2021 "Crenigacest at inhibits iCCA Tumor progression via NOTCH1/HES1/CD90 pathway" Seren a Mancarella, Isabella Gigante, Grazia Serino, Diego Calvisi, Antonio Cigliano, Silvia Ribback, Rodolfo Sardone, Raffaele Armentano, Gianluigi Giannelli.

Rome, Italy 20-22 November 2019, "New thecnologies and strategies to fight cancer", poster presentation "The Notch Inhibitor LY3039478 Reduces iCCA Tumor Progression by Restraining Angiogenesis." S. Mancarella, G. Serino, F. Dituri, A. Cigliano, S. Ribback, J. Wang, X.Chen, D. F. Calvisi, G. Giannelli.

Certificate of attendance

Geneva, Switzerland 2-5 February 2017, "EASL- Event -HCC-Summit2017", e-poster presentation "LY3039478 at Notch gamma-secretase inhibitor blocks cholangiocarcinoma growth in a patient-derived xenograft (PDX) model." S. Mancarella, F. Dituri, N. Chaoul, F. Cardile, P. De Luca, C. Pisano and G. Giannelli.

Certificate of attendance

Paris, France 27-29 April 2016, "50th Annual Scientific Meeting of the European Society for Clinical Investigation (ESCI 2016)", Participation and Oral Presentation titled "Laminin-5 protects HCC cells from Sorafenib efficacy via $\alpha 3 \beta 1$ integrin and downstream FAK ubiquitination." S.Mancarella, F.Dituri, A.Azzariti, L.Porcelli, A.E.Quatralle and G.Giannelli.

Certificate of attendance

Torino, Italy 17-18 February 2014, Meeting Prin 2010-2011 "NANO Molecular Technologies for Drug Delivery NANOMED". "Nanoengineered Capsules and Particles for Tumor Targeting of Polyphenols". S. Mancarella, V. Greco, F. Baldassarre and S. Leporatti. (Oral communication).

WORKSHOP

Workshop

Bari, Italy, 6 <https://webgate.acceptance.ec.europa.eu/europass/eportfolio/api7> May 2015 Course in Medical Publishing. "How to write a scientific paper." University of Bari Aldo Moro, Italian Society of Internal Medicine, European Society of Clinical Investigation, Harvard, in collaboration with Harvard University in Boston and USA in the University of Oslo.

Certificate of attendance

Lecce, Italy 6 - 8 September 2012, Participation in WoMeN - Workshop on Nanomedicine and Nanobiosystems organized and founded by the Institute of Nanosciences - CNR (<http://https://webgate.acceptance.ec.europa.eu/europass/eportfolio/apihttps://webgate.acceptance.ec.europa.eu/europass/eportfolio/apiwww.nano.cnr.it>) in collaboration with the Department of Culture of the Province Of Lecce and Department of Mathematics and Physics "Ennio De Giorgi" - University of Salento.

Workshop Participation Certificate "WoMeN" 2012.

TRATTAMENTO DEI DATI PERSONALI

Trattamento dei dati personali

I authorize the processing of my personal data according to Legislative Decree no. 196 "Code on the protection of personal data."