Dalila Fanelli

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I am a young graduate with great enthusiasm toward the world of Biomedical Research, driven by a strong desire for knowledge and continuous improvement. From my early years at Universities to the present, I have gained great work experience. I am a helpful and proactive person toward the tasks assigned to me, and I successfully perform each.

Cooperation and sharing within a team gets me excited because I believe that "*networking*" is the key to achieve personal and professional growth.

Istruzione

II Level Master |October 2022 | University of Padua

Assisted Reproductive Technology (ART) and Human Reproductive Sciences

- **Activities Studied and Viewed:** ART techniques on biological semen specimens (cell counts, spermiogram, semen processing for IVF and ICSI in vitro fertilization and freezing), oocytes and blastocysts, cryopreservation techniques (freezing and thawing protocols, vitrification), and level I and II fertilization techniques (Embryo Transfer, IVF, ICSI).
- **Activities performed** on semen surplus and waste material**:** sperm fluid washing, sperm count exercise, density gradient capacitation, cell viability test, eosin/nigrosin staining (swelling test), MAR Test, Embryo Transfer with ET catheter, IUI, IVF, ICSI. Use of optical instrumentation: micromanipulator, inversion light microscope, stereo microscope, CASA automatic cell counter and Makler chamber.

Master Degree LM-6 | 17.09.2021 | University of Padua

Sanitary Biology

- **Thesis Title:** Study of the modulation of lipid metabolism by DNA-PK in ovarian carcinoma cells
- **Thesis Activities**: During my graduate internship (carried out in the laboratory of Prof. S. Indraccolo and under the supervision of PhD G. Nardo), I mainly did Cell Biology activities working on *in vitro* models (cell cultures) of breast and ovarian cancer cell lines. The purpose of the study was to monitor the activity of DNA-PK enzyme on lipid metabolism of the treated cell lines: MDA-MB-231 (Breast Cancer) and KURAMOCHI, IGROV-1, MDAH-2774, OVCAR4, SKOV3 (Ovarian Cancer) using a Knock-Out cell clone for DNA-PK gene and siRNA that negatively interfered with the transcription of the enzyme, respectively.

Analyses were performed using cell biology techniques such as Western Blot for the determination of proteins downstream of DNA-PK in cell lines. Finally, I analyzed the activity of phosphorylated AMPK (pAMPK) protein on gene expression of two molecules under its regulation (ACC-1 and FASN), using Real-Time PCR coupled to retro-transcription (RT-PCR).

Bachelor's Degree L-13 | 11.07.2019 | University of Urbino "Carlo Bo"

Biological Sciences

- **Thesis Title:** Genetics of mitochondrial diseases: diagnostic, clinical and therapeutic perspectives
- **Activities**: During my degree I had my first approach in the scientific field through the laboratories of the University and finally with an internship at the Bio Lab (Via Alberto Giacometti, 36 Vallefoglia PU). In addition, I successfully carried out a thesis entitled "*Genetics of mitochondrial diseases: diagnostic, clinical and therapeutic perspectives*" under the supervision of Professor A. Gregorini.

Main Skills and Responsibilities

Cellular Biology

- Tumoral Cellular lines cultures;
- use of siRNA;
- Preparation of Cell Blocks;
- Cell count: Tripan Blue, Makler Chamber, Burker Chamber;
- Protein extraction;
- Nucleic Acids extraction (RNA, gDNA e cfDNA) from pellet, plasma, FFPE, whole blood;
- Protein quantification (BCA assay);
- Electrophoresis: SDS-PAGE;
- Western Blot;
- Retro Transcription;
- PCR: Real-Time PCR; droplet digital PCR (BioRad); Multiplex PCR;
- Eosin/Nigrosin staining;
- Swelling Test;
- MAR Test;
- Handling and maintenance of biological material (semen and oocytes);

Recently acquired and applied techniques at the Immunotherapy laboratory (IRST, Meldola): ELISPot and ELLA (automated multianalyte ELISA).

Molecular Biology

- Nucleic Acid quantification: Nanodrop, Qubit, Tape Station System, Bio Analyzer 2100;
- NGS (NextSeq 550, MiSeq);

Microscopy

- Optical microscopy;
- Inversion microscopy;
- Stereomicroscopy;
- Immunohistochemical analysis: Aperio CS2

Software

- Scanscope Image Analysis

Work Experience

Researcher | IRST – Meldola (FC)

Joined the Clinical and Experimental Immunomonitoring platform of the Clinical and Experimental Oncology Unit of the "Dino Amadori" Institute, Meldola (FC) from 01.08.2023. I collaborate as a Researcher in the study and application of immunomonitoring protocols in oncological patients treated within the Institute.

My main responsibilities are to analyze the presence of biochemical alterations within cancer patients' blood samples that may emerge or develop after therapy.

We carry out research activities with the aim of characterizing the mechanisms which eventually arise after the immunological response in patients and those underlying primary or secondary resistance to treatment. Thus, we use highly sensitive techniques of advanced cytofluorimetry, immunoassays to identify the presence of specific immune cell populations and/or their circulating derivates (extracellular vesicles, cytokines, and chemokines), NGS techniques for Whole Exome Sequencing analysis, and transcriptional profiling analysis of tumor and immune cells.

Through this we observe any toxicities that may occur as a result of administered cancer therapy. Additional goals of the immunomonitoring platform are the characterization of plasma biomarkers that can serve as prognostic markers of the oncological diseases we study and collaboration with other research teams for the development of new advanced cell therapies.

Scholarship | IOV – Padua (PD) | 17.01.2022 – 21.07.2023

Main activities and responsibilities:

Liquid biopsy of gastric and gastro-oesophageal tract cancer patients using digital droplet PCR (ddPCR, Bio Rad) for the identification of tumor-specific circulating molecular biomarkers.

Actively contributed to the development of a custom NGS panel, validated on about 50 samples for the identification of SNVs, CNVs and INDELs.

Study and determination of MSI status in pancreatic cancer FFPE samples (PDAC) using ddPCR.

Performed molecular diagnostic analysis for the determination of polymorphisms in DPYD and UGT1A1 genes.

Licensing and Enabling

Good Clinical Practice: from theory to practice | IRST, Meldola (FC)

Participation in the refresher course and issuance of certificate on 02.11.2023

Professional License| 17.11.2021

Licensure as a Biologist
