

# Sefora Marino

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🌐 Sefora Marino

## Introduction

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Industrial biotechnologist with Ph.D. in Genetics, specializing in preclinical studies in both in vitro and in vivo systems. Extensive experience in genetic manipulation, molecular and genomic analysis, with hands-on expertise in gene cloning, qRT-PCR, microarray, sequencing, phage display, ELISA, Western blot, MTT assay, and immunofluorescence, applied to both basic research and biotechnological applications. Proficient in handling mammalian cell cultures with additional experience in animal and microbial models.

Independent and detail-oriented in experimental design, with a keen analytical mindset and a collaborative approach within multidisciplinary research environments.

Previous research experience abroad within an international research environment, gaining valuable experience in cross-cultural collaboration and scientific communication.

## Education

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### Ph.D. in Technologies and Sciences for Human Health

*University of Palermo, Palermo*

*November 2021 - December 2024*

- During my Ph.D. journey I successfully evaluated the effectiveness of antisense oligonucleotides in restoring the expression of the tumor suppressor MBP-1 in breast cancer cell lines, the ability of MBP-1 to interfere with aerobic glycolysis in breast cancer cells by dimerizing with alpha-Enolase, and I identified novel MBP-1 targets and functional pathways by using the microarray technology to perform whole miRNA and whole genome expression analysis.

### Master's Degree in Biotechnologies for Industry and Scientific Research

*University of Palermo, Palermo*

*October 2017 - October 2021 110 cum laude, graduated with honors and special mention for academic merits.*

### Bachelor's Degree in Biotechnologies

*University of Palermo, Palermo*

*October 2014 - October 2017 110 cum laude*

## Skills

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- **Technical Skills:** Preparation, maintenance and manipulation of eukaryotic and prokaryotic cell cultures, end point and qRT-PCR, microarray, gene cloning, sequencing, genotyping, Western Blot, immunofluorescence, fluorescence anisotropy, ELISA, MTT assay, phage display, experiment design and execution, biological data analysis.
- **Computer Skills :** Proficient in Office Suite (Word, Excel, PowerPoint, etc.), GraphPad for statistical analysis and graphical representation. Good knowledge of C++ programming elements.
- **Soft skills:** Problem-solving, teamwork, time and delivery management.

## Publications

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- Raia G, Marullo S, Lazzara G, Cavallaro G, Marino S, Cancemi P, D'Anna F. Upcycling of Poly(lactic acid) Waste: A Valuable Strategy to Obtain Ionic Liquids. ACS Sustain Chem Eng. 2023 Dec

6;11(50):17870-17880. doi: 10.1021/acssuschemeng.

- Azeem M, Cancemi P, Mukhtar F, Marino S, Peri E, Di Prima G, De Caro V. Efficacy and limitations of SARS-CoV-2 vaccines - A systematic review. *Life Sci.* 2025 Jun 15;371:123610. doi: 10.1016/j.lfs.2025.123610.

## Experience

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### Post-Doc fellow

*University of Palermo, Palermo*

*December 2024 - Present*

Currently engaged in analyzing the effectiveness of transcriptional read-through inducing drugs (TRIDs) in correcting genetic defects caused by nonsense mutations, contributing to research on new therapies for genetic diseases. The TRIDs have been tested on a mouse model carrying a stop mutation on the DMD (Duchenne Muscular Dystrophy) gene, on skin fibroblasts from a primary immunodeficiency (PI) patient carrying a stop mutation on the LRBA gene and on skin fibroblasts from different choroideremia (CHM) patients carrying different stop mutations on the CHM gene. In vitro experiments are conducted to evaluate the efficacy and safety of new therapeutic approaches, using molecular biology techniques such as RT-qPCR, Western Blot, and immunofluorescence.

### Ph.D. student

*University of Palermo, Palermo*

*November 2021 - December 2024*

During my Ph.D, I evaluated the efficacy of antisense oligonucleotides in reactivating MBP-1 tumor suppressor expression in breast cancer cell lines. I characterized MBP-1's role in modulating aerobic glycolysis via heterodimerization with alpha-Enolase, and employed microarray-based transcriptomic and miRNA profiling to uncover novel MBP-1-regulated targets and associated functional pathways.

### Master Thesis Intern

*HES-SO Valais-Wallis, Sion, Switzerland*

*October 2019 - August 2020*

During my Master's thesis, I had the opportunity to work at HES-SO Valais-Wallis of Sion, in Switzerland. The project focused on a phage display-based characterization of peptides aimed at the development of antiviral drugs against the Respiratory Syncytial Virus (RSV).

### Bachelor Thesis Intern

*University of Palermo, Palermo*

*April 2017 - July 2017*

I worked on the treatment of *Paracentrotus lividus* (sea urchin) embryos with the newly synthesized molecule N-Salpin for the evaluation of variation in the expression of genes regulating development.

## Languages

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- **Italian:** Native
- **English:** Advanced

## Additional Information

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I sing for pleasure, I play the piano, which I studied for about 8 years, and the guitar as an amateur.

I authorize the processing of my personal data included in this curriculum in accordance with Regulation (EU) 2016/679 (GDPR) and applicable national legislation.