Osvaldo Vega-Martínez

Biotechnology Engineer | Biomedical Sciences | Human Genomics

Chief Science Officer | R&D Lead | Scientific Advisor

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With over nine years of experience in basic and translational biotechnology, I serve as Chief Science Officer at a pioneering company specializing in RNAi- and nanotechnology-based therapies. My background includes leading interdisciplinary teams through all stages of drug discovery and preclinical development, managing R&D programs, and fostering innovation through strategic business development.

I have a deep understanding of cancer biology, RNAi-based therapies, and advanced drug delivery technologies, with a strong focus on translating science into impactful therapeutic solutions. Throughout my career, I have successfully integrated innovation, intellectual property protection, and strategic partnerships while supporting funding initiatives, managing licensing agreements, and driving collaborations to accelerate groundbreaking advancements.

Passionate about advancing research and development, I seek opportunities to apply my knowledge and skills to biotechnology platforms and therapeutic innovations. My commitment lies in leveraging science to address critical healthcare challenges through transformative solutions.

HARD SKILLS

- Molecular Biology
- Cancer Biology
- Oligonucleotide-based Drugs
- Drug delivery systems
- Regulatory Affairs
- Research and Development
- Translational Science

SOFT SKILLS

- Planning and execution
- Timeline management
- Strategic decision-making
- Mentorship and training
- Innovative thinking

LANGUAGES

- Spanish – Native
- English – Professional Proficiency

EDUCATION

MSc	University of Costa Rica Biomedical Sciences and Human Genomics	2014-2018
BSc	Costa Rica Institute of Technology Biotechnology engineering	2009-2012

WORK EXPERIENCE

- Chief Science Officer — 2017-
  Speratum Biopharma Inc
- R&D Lead – Molecular Biology Department — 2015-2017
  Speratum Biopharma Inc
- Research assistant – Molecular Biology Laboratory — 2012-2015
  Cellular and Molecular Biology Research Center (UCR)
- Research assistant – Molecular Biology Laboratory — 2011-2012
  Biotechnology Research Center (TEC)

PRESENTATIONS

- Fundamentals of cancer pathophysiology — 2023
  College of Nurses of Costa Rica
- Fundamentals of Drug Discovery and Development — 2023
  Costa Rica Institute of Technology
- Preclinical development of a treatment based on non-coding RNA — 2022
  Latin University of Costa Rica
- A potential treatment against SARS-CoV-2 based on miRNAs — 2020
  BioTica-TEC Congress
- MiR-198: a potential treatment for ovarian cancer — 2019
  XII Mesoamerican Congress of Medical Sciences
- Innovating against ovarian cancer in Costa Rica — 2018
  3rd National Congress on Innovation-PROINNOVA
- Cancer genetics — 2016
  Centre on Health and Social Security – Costa Rica

PUBLICATIONS (HYPERLINKED)

- Exploring the lactic-co-glycolic acid-polyethylenimine synthesis in Chloroform as methodology for manufacturing a transfection reagent and nanoparticles for nucleic acid-based therapy – **Manuscript in progress**
- Optimization of lactic-co-glycolic acid modified polyethylenimine-based nanoparticles for nucleic acid delivery: Protocol to enhance long-term stability in both aqueous solution and lyophilized form– **Manuscript in progress**
- Nanoparticle-Mediated Therapy with miR-198 Sensitizes Pancreatic Cancer to Gemcitabine Treatment through Downregulation of VCP-Mediated Autophagy
- A novel miR-198-based mimic as a potential therapeutic against pancreatic ductal adenocarcinoma (PDAC).
- MiR-198 sensitizes pancreatic cancer to gemcitabine treatment through downregulation of VCP-mediated autophagy maturation.
- Therapeutic potential of miR-198 to suppress MC38 colonic adenocarcinoma growth

PATENTS (HYPERLINKED)

- Flexible RNA scaffolding for reprogrammable combinatorial RNAi administration
- Substrate Sequences for the RNAi-Mediated Regulation of Genomic and Sub-genomic Viral RNAs.

PROFESSIONAL TRAINNING

Harvard MS	Drug Discovery and Development	2023
CI-Pfizer	Good Clinical Practices	2017
UCR	Experimental design for preclinical research	2016
INTECO	ISO 9001: 2015	2016
UCR	Molecular mechanisms of cancer	2014