

**Aldo Di Vito**

Home

Email:

LinkedIn:

Date of birth:

Nationality:

ABOUT ME

I am a pharmaceutical biotechnologist with a Ph.D. in Biotechnological Sciences. I have gained consolidated experience regarding in vitro and in vivo characterization of aptamers for therapeutic and diagnostic purposes. I have also acquired skills in molecular biology, cell-based assay, enzyme-linked immunosorbent assay (ELISA), and cell culture methods

WORK EXPERIENCE**PhD Student***Alma Mater Studiorum - University of Bologna*

- Discovery of novel therapeutic compounds from plant extracts for treating gastrointestinal stromal tumors (GISTs)
- Studying mechanisms of metastasis in GIST

Junior Scientist at Bracco Imaging S.p.A*Biotechnology Park Silvano Fumero SpA, Colliertto Giacosa (Turin, Italy)*

- Identification and characterization of innovative aptamer-based probes for diagnostic imaging in cancer

Federchimica Research Fellowship funded by Bracco Imaging S.p.A*Department of Molecular Medicine and Medical Biotechnology (DMMBM), Naples (Italy)*

- Identification and characterization of innovative aptamer-based probes for diagnostic imaging in cancer

Internship at IEOS - CNR*Endocrinology Institute and Experimental Oncology "G. Salvatore" (IEOS-CNR), Naples (Italy)*

- Development of aptamer-anti-miRNA conjugates for cancer cells targeted delivery

EDUCATION AND TRAINING**Ph.D. in Biotechnological, Biocomputational, Pharmaceutical and Pharmacological Sciences***Alma Mater Studiorum - University of Bologna*

City: Bologna Country: Italy Field(s) of study: Biotechnological and Pharmaceutical Sciences Final grade: Excellent Thesis: Gastrointestinal stromal tumors: Arbutus unedo L. as a source of novel chemotherapeutics & mechanisms behind metastasis

Visiting PhD Student*Vall d'Hebron Institute de Recerca (VHIR)*

City: Barcelona Country: Spain

Master's Degree in Pharmaceutical Biotechnologies

05/04/24

University of Naples "Federico II", Faculty of Biotechnological Sciences, Naples (Italy)

City: Napoli Country: Italy Final grade: 110/110 cum laude Thesis:
"Development of an aptamer-anti-miRNA conjugate for targeted cancer therapy"

Bachelor's Degree in Biotechnological Sciences

University of Naples "Federico II", Faculty of Biotechnological Sciences, Naples (Italy)

City: Napoli Country: Italy Final grade: 110/110 cum laude Thesis:
"Identification by western blot analysis of a possible molecular target of miRNA-262 in NSCLC"

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English

LISTENING B2 READING B2 WRITING B2

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

Spanish

LISTENING A2 READING A2 WRITING A2

SPOKEN PRODUCTION A2 SPOKEN INTERACTION A2

PUBLICATIONS

The multifaceted landscape behind Imatinib resistance in gastrointestinal stromal tumors (GISTs): A lesson from ripretinib

Di Vito A, Ravegnini G, Gorini F, et al. *Pharmacol Ther.* 2023;248:108475. doi:10.1016/j.pharmthera.2023.108475

New insights into irritable bowel syndrome pathophysiological mechanisms: contribution of epigenetics

Dorhel G, Barbaro MR, Di Vito A, et al. *J Gastroenterol.* 2023;58(7):605-621. doi:10.1007/s00535-023-01997-6

miRNA Expression May Have Implications for Immunotherapy in PDGFRα Mutant GISTs

Ravegnini, G., Nannini, M., Indio, V., Serrano, C., Gorini, F., Astolfi, A., Di Vito, A., Morroni, F., Pantaleo, M. A., Hrelia, P., & Angelini, S. (2022). *International journal of molecular sciences*, 23(20), 12248. <https://doi.org/10.3390/ijms232012248>

An ultrasound-guided injection method for a syngeneic orthotopic murine model of breast cancer

La Cava, F., Fringuello Mingo, A., Colombo Serra, S., Di Vito, A., Cabella, C., Oliva, P., Cordaro, A., Brioschi, C., Terreno, E., & Miragoli, L. (2021). *Laboratory animals*, 55(5), 472–477. <https://doi.org/10.1177/00236772211009074>

Biotin oligonucleotide labeling reactions: A method to assess their effectiveness and reproducibility

Di Vito, A., Reitano, E., Poggi, L., & Iaboni, M. (2020). Biotin oligonucleotide labeling reactions: A method to assess their effectiveness and reproducibility. *Analytical biochemistry*, 593, 113590. <https://doi.org/10.1016/j.ab.2020.113590>

Orthotopic induction of CH157MN convexity and skull base meningiomas into nude mice using stereotactic surgery and MRI characterization

La Cava, F., Fringuello Mingo, A., Irrera, P., Di Vito, A., Cordaro, A., Brioschi, C., Colombo Serra, S., Cabella, C., Terreno, E., & Miragoli, L. (2019). *Animal models and experimental medicine*, 2(1), 58–63. <https://doi.org/10.1002/ame2.12050>

Selective delivery of therapeutic single strand anti-miRs by aptamer-based conjugates

Catuogno, S., Rienzo, A., Di Vito, A., Esposito, C. L., & de Franciscis, V. (2015). *Journal of controlled release : official journal of the Controlled Release Society*, 210, 147–159. <https://doi.org/10.1016/j.jconrel.2015.05.276>

PATENT

CA-IX APTAMERS AND DIAGNOSTIC AND THERAPEUTIC USES THEREOF - WO/2021/052982 - 25.03.2021

EXPERTISE

Job-related skills

In vitro:

Nucleic acids: nucleic acid isolation and purification, oligonucleotide biotinylation, UV spectroscopy analysis, Polymerase Chain Reaction (PCR), PCR purification methodologies, RNA retro-transcription, T7 RNA Polymerase transcription, real-time PCR, nucleic acid electrophoresis separation and gel staining;

In vitro 2D cell culture methods: growth and maintenance of mammalian cell cultures, oligonucleotide and plasmid transfections, cell viability assays (MTT), cell migration and invasion assays, crystal-violet staining

CRISPR/Cas-9: stable silencing of cancer-related genes and clone selection;

Flow cytometry: analysis of cell death by specific stainings (apoptosis and necrosis) and cell cycle monitoring;

Fluorescence-based cell sorting: basics for isolation of cell subpopulations;

Proteins: protein biotinylation and purification, SDS-PAGE electrophoresis separation and gel staining;

Systematic evolution of ligands (aptamer) by exponential enrichment (SELEX): Protein and Whole Cell-SELEX;

Ligand binding assay: Dissociation constant measurement (K_d);

Immunoassays: Western Blot, Enzyme-Linked Immunosorbent Assay (ELISA), and Enzyme-linked oligonucleotide assay (ELONA);

Microbiological techniques: bacterial growth, plasmid amplification and its purification methods;

Sequencing: Topo TA cloning kit

Proteomics: analysis of proteomics data

Quality control analysis: "Failure Mode and Effect Analysis" (FMEA);

Data analysis and statistics: Student's t-test, One-Way ANOVA, Two-Way ANOVA;

Bioinformatics: Genome Browser, pairwise and multiple sequence alignment tools, ExPASy, Bioinformatic Resource Portal and ImageJ, Benchmarking software, GraphPad Prism.

In vivo:

handling of rodent animal models, cell culture application for preparation of cancer animal models, ectopic and orthotopic cancer models, main administration routes; basics in Magnetic Resonance Imaging (MRI) Fluorescence Optical imaging (FOI)

05/04/24

SCIENTIFIC SCHOOLS

Winter and Summer Schools

- Summer School - CHEMICAL AND GENOMICS-BASED STRATEGIES IN THE DISCOVERY OF NOVEL DRUG TARGETS, 21-25 June 2021 Bologna
- 22nd Bologna Winter School on Biointerfaces BIOINFORMATICS FOR DISCOVERY IN STRUCTURAL AND FUNCTIONAL BIOLOGY OUTLINE, 9-19 February 2021

THESIS CO-SUPERVISING

Thesis co-supervising

- Deciphering Panx1 in cancer using a novel peptide expression system, Dott.ssa Claudia Camplone, Corso di Laurea Magistrale in Biotecnologie Farmaceutiche, (2022-2023) - Università di Bologna.
- Studio dell'effetto di estratti vegetali di *Arbutus unedo* L. nei tumori stromali gastrointestinali, Dott.ssa Giulia Sun, Corso di Laurea Magistrale a Ciclo Unico in Medicina e Chirurgia (2022-2023) - Università di Bologna.
- Valutazione degli effetti proapoptotici di estratti vegetali di *Arbutus Unedo* L. su modelli cellulari di tumore stromale gastrointestinale tramite Western blot, Dott. Massimiliano Montanari Reggiani, Corso di Laurea in Scienza Biologiche, (2020-2021) - Università di Bologna.

The undersigned, aware that - pursuant to art. 76 of the Presidential Decree 445/2000 - false declarations, the falsity in documents and the use of false documents are punishable under the penal code and special laws, declares that the information is true. Regarding the processing of personal data, the undersigned expresses my consent to the processing of the series in compliance with the purposes and methods set out in Legislative Decree no. 196/2003

Napoli, 04/01/2024

05/09/2024