

Scientific CV of Andrea Di Santo

Personal data

Name and surname: Andrea Di Santo

Date and place of birth: 28th May 1997, Bagno a Ripoli (FI), Italy

Nationality: Italian

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Vocational training

In 2016 I obtained the high school diploma at I.T.A.S. Ginori Conti (Florence, Italy) in Environmental Biotechnologies with a grade of 100/100. In the same year I enrolled in University of Florence in Chemistry faculty. In 2019 I obtained the 1st level Degree in Chemistry with a grade of 110/110 *cum laude* with the thesis “Metformin analogue functionalized with fluorescent probe”, supervisor Prof. Stefano Cicchi. In 2022 I obtained the 2nd level Degree in Organic Chemistry, with a grade of 110/110 *cum laude* with the master thesis “Design, synthesis, and biological evaluation of peptides derived from Spike protein and nucleocapsid protein of Severe Acute Respiratory Syndrome CoronaVirus 2 (SARS-CoV-2)”, supervisor Prof. Anna Maria Papini. After graduation I won the research fellowship “Research and development of efficient and sustainable molecules in industrial processes” founded by the Chemistry Department of the University of Florence. In November 2022 I obtained a PhD scholarship in Pharmaceutical Sciences at NEUROFARBA Department, University of Florence, with thesis titled “Preliminary characterization of drug and anti-drug antibodies in patients treated with adalimumab using Surface Plasmon Resonance (SPR)”.

Publications

- Stincarelli MA, Quagliata M, Di Santo A, Pacini L, Fernandez FR, Arvia R, Rinaldi S, Papini AM, Rovero P, Giannecchini S. SARS-CoV-2 inhibitory activity of a short peptide derived from internal fusion peptide of S2 subunit of spike glycoprotein. *Virus Res.* 2023 Sep;334:199170. doi: 10.1016/j.virusres.2023.199170. Epub 2023 Jul 15. PMID: 37422270; PMCID: PMC10384657.
- Real-Fernandez F, Errante F, Di Santo A, Papini AM, Rovero P. Therapeutic proteins immunogenicity: a peptide point of view. *Explor Drug Sci.* 2023;1:377–87. <https://doi.org/10.37349/eds.2023.00025>
- Di Santo, A., Papini, A. M. & Rovero, P. Chapter 6 - Antibody-directed enzyme prodrug therapy (ADEPT). in *Advances in Prodrugs* (eds. Supuran, C. T., Angeli, A. & Tanini, D.) 97–111 (Elsevier, 2025). doi:10.1016/B978-0-443-15635-9.00018-3.
- Di Santo, A., Errante, F., Capone, M., et al. Adalimumab and anti-adalimumab antibodies a novel method of detection and quantification in human sera based on surface plasmon resonance technique. in *Proceedings of the 37th European Peptide Symposium* 2134–2134 (The European Peptide Society, 2024). doi:10.17952/37EPS.2024.P2134.
- Fernandez, F. R., Di Santo, A., Kirilova, K. K., et al. Design, synthesis, and biological activity of tumor necrosis factor- α peptides for adalimumab recognition. in *Proceedings of the 37th European Peptide Symposium* 2098–2098 (The European Peptide Society, 2024). doi:10.17952/37EPS.2024.P2098.
- Quagliata, M., Stincarelli, M. A., Di Santo, A., et al. Synthesis, conformational analysis and biological activity evaluation of novel antiviral peptides blocking the SARS-CoV-2 cell-entry. in *Proceedings of the 37th European Peptide Symposium* 2080–2080 (The European Peptide Society, 2024). doi:10.17952/37EPS.2024.P2080.
- Di Santo, A.; Marrani, E.; Gallo, C.; Errante, F.; Maniscalco, V.; Papini, A.M.; Simonini, G.; Rovero, P.; Real Fernandez, F. Anti-Adalimumab Antibodies Purified from Juvenile Idiopathic Arthritis Patients: Kinetic Characterization Among Biosimilars. *Biosensors* 2025, 15, 278. <https://doi.org/10.3390/bios15050278>
- A. Di Santo, L. Tarchi, G. Villa, G. Castellini, V. Ricca, R. Squecco, A. M. Papini, F. Real-Fernandez, P. Rovero, *ChemMedChem* 2025, 20, e202400961. <https://doi.org/10.1002/cmdc.202400961>

Scientific contributes

06/2022 - 4th National Congress of Italian Peptide Society Naples, Italy. **Oral contribute** "Antiviral peptides derived from Heptad Repeated Region 1 of Spike protein of Severe Acute Respiratory Syndrome CoronaVirus 2 (SARS-CoV-2)"

08/2022 - 36th European and 12th International Peptide Symposium Sitges, Spain. **Poster presentation** "Design, synthesis, and biological evaluation of peptides derived from Spike protein of Severe Acute Respiratory Syndrome CoronaVirus 2 (SARS-CoV-2)".

09/2023 - 28th National Meeting on Medicinal Chemistry Chieti, Italy. **Poster presentation** "Detection and quantification of drug and anti-drug antibodies in patients treated with the therapeutic monoclonal antibody Adalimumab using a Surface Plasmon Resonance biosensor".

09/2023 - Giornata Scientifica ItPS 2023 dedicata ai Giovani Ricercatori Florence, Italy. **Oral contribute** "A novel method based on Surface Plasmon Resonance for detection and quantification of Adalimumab and anti-Adalimumab antibodies in sera of treated patients".

10/2023 - 4th Autumn Meeting for Young Chemists in Biomedical Sciences Florence, Italy. **Oral contribute** "Surface Plasmon Resonance biosensor to detect and quantify drug and anti-drug antibodies in patients treated with the therapeutic monoclonal antibody Adalimumab".

09/2024 – 37th European and the 14th International Peptide Symposium Florence, Italy. **Poster presentation** “Adalimumab and anti-adalimumab antibodies: a novel method of detection and quantification in human sera based on surface plasmon resonance technique”

07/2025 – 27th Japanese Peptide Forum Kagoshima, Japan. **Oral contribute** “A novel surface plasmon resonance method to detect and quantify adalimumab and anti- adalimumab antibodies in human sera”