

LUCA SANTI
Curriculum Vitae

Place: Rome
Date: 22/10/2025

Part I – General Information

Full Name	LUCA SANTI
Date of Birth	11/11/1973
C.F.	SNTLCU73S11D969D
Place of Birth	Genova
Citizenship	Italian
Permanent Address	Via John Lennon 82, 00128, Roma
Mobile Phone Number	3341548020
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Spoken Languages	Italian, English

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,...)
University graduation	1997	University of Genoa, Italy	Biology Degree at the Faculty of Mathematical, Physical and Natural Science. Graduation grade 110 cum laudae, experimental thesis title: “Effects of glucocorticoids on the activity of the Poly ADP-ribose polymerase (PARP) in rat liver and kidneys”.
PhD	2002	University of Cologne at the Max Planck Institute for Plant Breeding Research in Cologne, Germany	PhD grade, Sehr Gut (Very Good); thesis title: “Intron mediated regulation of BKn3, a plant homeobox gene, as supported by BBR (GAGA) binding factor”.
Graduate level course	2004	Law School of Arizona State University, Tempe, USA	Patents and Intellectual Properties in Life Science and Biotechnology

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
07/2002	11/2002	Max Planck Institute for Plant Breeding Research. Cologne, Germany	Postdoc
01/12/2002	06/01/2005	Postdoc position at Department of Infectious Disease and Vaccinology of the Biodesign Institute, Arizona State University, Tempe, USA	Postdoc
02/2003	08/2003	Icon Genetics GmbH, Halle, Germany	Visiting Scientist
01/2005	06/2006	Department of Infectious Disease and Vaccinology of the Biodesign Institute at Arizona State University, Tempe, USA	Assistant Professor
07/2006	06/2010	Department of Biology, University Rome Tor Vergata, Rome, Italy.	Contract Associate Professor (Italian Brain Drain Law, Legge Rientro dei Cervelli)
07/2010	04/2011	Department of Environment and Forests (DAF), University of Tuscia, Viterbo, Italy	Contract Researcher
05/2011	08/2024	Department of Agriculture and Forest Sciences (DAFNE), University of Tuscia, Viterbo, Italy	Associate Professor of Pharmaceutical Botany
08/2024	Present	Department of Environmental Biology (DBA), SAPIENZA University of Rome, Roma, Italy	Full Professor of Pharmaceutical Botany

IIIB – Other Appointments

Start	End	Institution	Position
11/2018	08/2024	University of Tuscia	Member of the committee for the University Library Centre
06/2021	08/2024	University of Tuscia	Vice Director of the committee for the University Library Centre
04/2022	08/2024	University of Tuscia	Department delegate for inclusion and equity
06/2022	12/2022	Sintalica Bioscience Corp	Scientific consultant for ideation and establishment of a research and

			development program on pharmaceutical applications of psilocibin and other triptamin derivatives from <i>Psilocybe</i> mushrooms
11/2020	08/2024	University of Tuscia	Delegate for internalization for Plant Biotechnology Master's degree course
2020	2023	University of Tuscia	Scientific coordinator for Erasmus+ KA 107 international credit mobility with The Royal University of Buthan, college of Natural Resources, Buthan
2020	2023	University of Tuscia	Scientific coordinator for Erasmus+ KA 107 international credit mobility with Prince of Sogkhla University, Thailand
11/2024	Present	University of Rome La Sapienza	Department delegate in the Outreach Committee of the Faculty of Mathematical, Physical and Natural Sciences

Part IV – Teaching experience

Year	Institution	Lecture/Course
2024-Present	University of Rome La Sapienza	Pharmaceutical Botany/ single-cycle master's degree: Pharmacy - 6 CFU
2024-Present	University of Rome La Sapienza	Pharmaceutical Botany/ bachelor degree: Applied Pharmaceutical Sciences - 6 CFU
2024-Present	University of Rome La Sapienza	Pharmaceutical Biology/ single-cycle master's degree: Pharmacy - 8 CFU
2024-Present	University of Rome La Sapienza	Pharmaceutical Biology/ single-cycle master's degree: Pharmaceutical Chemistry - 6 CFU
2013-2023	University of Tuscia	Botany/ Bachelor's degree: Agriculture and Environmental Sciences - 8 CFU
2012-2023	University of Tuscia	Plant Biotechnology and Pharmaceutical Products/ Master's degree: Biotechnology for the Security and Quality of Agricultural Productions - 6 CFU
2023	Prince of Songkhla University - Songkhla, Thailand	Plant Biotech - 1 CFU
2019	Kathmandu University (KU) - Dhulikhel, Nepal	Botany and Plant Biotech - 1 CFU
2019	Agriculture and Forestry University (AFU) - Rampur, Nepal	Botany and Plant Biotech - 2 CFU

2012	University of Tuscia	Forest Biotechnology/ Master's degree: Conservation and Restoration of Forest Environment and Soil Defense - 6 CFU
2011	University of Tuscia	Organic Chemistry and Elements of General Chemistry/ Bachelor's degree: Science and Technology for the conservation of Forests and Nature - 8 CFU
2006-2009	University of Rome Tor Vergata	Plant Virology and Applications/ Bachelor's degree in Biotechnology - 6 CFU
2006-2009	University of Rome Tor Vergata	Production of Biopharmaceuticals in Plant/ Bachelor's degree in Biotechnology- 6 CFU
2006	University of Rome Tor Vergata	Biopharmaceuticals/ International Master of II Level. European School for Scientific and Regulatory Assessment of New Medicine - 1 CFU
2005	Arizona State University	Plant Biotechnology/Biomedicine and Biotechnology graduate program, School of Life Science – 18 h

Part V - Member of teaching committees of PhD schools

Years	Institution	PhD school
2012-Present	University of Tuscia	Animal and Plant Production Sciences
2011-2012	University of Tuscia	Science and Technology for Forestry and Environmental Management
2009-2010	University of Rome Campus Bio-Medico	Biochemical Science and Technologies Applied to Food and Nutrition
2006-2008	University of Rome Tor Vergata	Cellular and Molecular Biology

Part VI - Society memberships, Awards and Honors

Year	Title
2022	Teaching award at the University of Tuscia for the Botany course as the most appreciated course of the University among technical-scientific subjects
2018 - Present	Member of the Italian Botanical Society (SBI)
2024 - Present	Member of the Italian Phytochemistry Society (SIF)

Part VII - Funding Information

VIIA - grants as PI-principal investigator or I-investigator

Year	Title	Program	Grant value
2006	Development of a plant derived vaccine against Hepatitis C virus	PI - MIUR, Italian Brain Drain Law (Legge “rientro dei cervelli”) D.M. 1 February 2005, n. 18.	300.000,00
2007	Plant and Virus- Derived Vaccine Vectors to Leishmaniasis and Toxoplasmosis”	Research Unit PI Ministry of Health, Ricerca Finalizzata, Progetto Ordinario	50.000,00
2012	New perspectives in the development of substances with Leishmanicide activity. Development of antimicrobial peptides with leishmanicide activity exposed on the external surface of plant viral nanoparticles	Ministry of Health, Italy, Current Research, IZSLT 07/12 RC	20.000,00
2017	Enhancement of Italian products deriving from OLIVE through Innovative analytical techniques – (VIOLIN)	Research Unit PI – Ager, Network Foundation for Agri-food Research	1.008.000,00
2023	Advanced analytical characterization and synergic evaluation of volatile terpenes of selected β -caryophyllene containing spices for diabetes treatment	Research Unit PI – MUR - PRIN 2022	247.323,00
2023	Sumac nutraceutical Potential through Innovative and Comprehensive Investigation (SPICE)	Research Unit PI – MUR - PRIN 2022 PNRR	200.000,00

VIIB - grants as member of Research Unit (RU)

Year	Title	Program
2004	Plant-made Microbicides and Mucosal Vaccines for sexually transmitted diseases.	National Institute of Health, USA. 1-U19-AI-62150-01. Research Unit member
2004	Plant Production of Vaccines and Antibodies for Protection Against Biowarfare Agents	Department of Defense, USA. DAMD 17-02-2-0015. Research Unit member
2007	Plant Biofactories for the production of vaccines against Dengue Virus	Directorate General for Cultural Promotion and Cooperation - Prot. 269/P0152102 del 20-04-2007. Research Unit member

2017	Targeting Hedgehog pathway: Virtual screening identification and sustainable synthesis of novel Smo and Gli inhibitors and their pharmacological drug delivery strategies for improved therapeutic effects in tumors	MUR. PRIN (20175XBSX4). Research Unit member
2018	Plant virus nanoparticles for blood-brain barrier crossing and medulloblastoma targeting (NANOCROSS)	Associazione Italiana per la Ricerca sul Cancro (AIRC). External project partner

Part VIII – Research Activities

Keywords	Brief Description
Spices	Phenolic compounds and terpenes from selected spices in type-2 diabetes control and prevention The International Diabetes Federation recently estimated that 415 million adults worldwide suffer from diabetes mellitus (DM), a number that is expected to increase to 600 million by 2040. Spices are traditionally used mainly as flavoring agents, however their richness in phytochemicals and the possibility of a daily intake opens the possibility for their nutraceutical employment. Scientific investigation of spice-derived specialized metabolites holds a great potential to isolate novel anti-diabetic prophylactic and therapeutic agents. In this context a multitarget approach for biological evaluation coupled with a precise phytochemical analysis is employed to perform a correlation analysis of extracts deriving from <i>Rhus coriaria</i> (sumac), <i>Origanum vulgare</i> (oregano), <i>Piper nigrum</i> (black pepper), <i>Rosmarinus officinalis</i> (rosemary), <i>Cinnamomum verum</i> (cinnamon) and <i>Curcuma longa</i> (turmeric). Specialized metabolites belonging to the terpenes and phenolic compounds families are characterized by comprehensive analytic technologies and are tested for biological activity using acellular assays for the evaluation of enzymatic and AGE inhibition and cellular assays on liver and adipocytic cell line for glucose uptake, insulin stimulation, GLUT expression and PPARγ modulation.
Phenolic compounds	
Terpenes	
Type-2 diabetes	

Keywords	Brief Description
Olive oil waste products	Valorisation of olive oil production waste products
Phenolic compounds	The olive (<i>Olea europaea</i>) oil industry is characterized by relevant amounts of by-products. Adequate, environmentally and economically sustainable disposal solutions are required in accordance with internationally agreed
Antimicrobial	

New packaging materials	waste management strategies. Phenolic compounds possess important biological activities and potential antibacterial, antifungal and antiviral activities have been reported. With the aim of valorising the olive oil production waste products (OOPWP), polyphenols-rich-extracts obtained from olive by-products with an eco-friendly procedure are tested for their antimicrobial activity, evaluating the correlation of the polyphenolic composition and antimicrobial properties. Extracts enriched especially in hydroxytyrosol are assayed for antimicrobial activity against Gram-positive (<i>Bacillus megaterium</i> , <i>Bacillus clausii</i> and <i>Rhodococcus fascians</i>), Gram-negative (<i>Pseudomonas savastanoi</i> pv. <i>savastanoi</i> , <i>Agrobacterium tumefaciens</i> and <i>Escherichia coli</i>) bacteria and fungi (<i>Fusarium graminearum</i> , <i>Septoria tritici</i> , <i>Bipolaris sorokiniana</i> , <i>Verticilium dhaliae</i> , <i>Fusarium culmorum</i> and <i>Botrytis cinerea</i>). Moreover, these enriched extracts are incorporated into Polyvinyl alcohol derived films to generate new functional packaging materials that could extend products shelf life.
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Keywords Brief Description

<i>Psilocybe</i> mushrooms	Triptamines from <i>Psilocybe</i> mushrooms for neuroinflammatory diseases treatment
Psilocybin	Recent studies have demonstrated the therapeutic potential of psilocybin, the prodrug of the psychoactive molecule psilocin, for the treatment of smoking and alcohol dependence, depression, obsessive-compulsive disorder, and post-traumatic stress disorder. These triptamines along with others such as baeocystin, norbaeocystin, aeruginascin and norpsilocin are contained in different fungal species belonging to the genus <i>Psilocybe</i> . In order to test those triptamins alone or in combination for anti-neuroinflammatory activity different varieties of <i>Psilocybe cubensis</i> are grown indoor under controlled conditions starting from spores, fruiting bodies are collected and triptamines are purified by preparative HPLC. Stability is tested on the different preparations alone or together with natural antioxidants (carotenoids). Different <i>in vivo</i> biological models are employed to test for activity such as the rat paw edema system (this project has my involvement as private consultant for Sintalica corp. more cannot be disclosed to avoid confidentiality infringement)
Tryptamines	
Neuroinflammation	

Keywords Brief Description

Plant virus nanoparticles	Plant virus derived nanoparticles as targetting and delivery systems
Delivery systems	Tomato bushy stunt virus (TBSV) has been extensively characterized in view of its possible use in the pharmaceutical field. TBSV has an icosahedral capsid of ~30 nm in diameter made of 180 capsid protein (CP) subunits, with the capability to encapsulate in its internal cavity and display on its surface small molecules and polypeptides respectively. TBSV is neither toxic nor teratogenic and do not induce major alterations in tissues architecture. The possibility to be easily functionalized by entrapping a cargo and exposing targeting molecules makes it very interesting as delivery system. This opportunity is under evaluation for the delivery of different molecules to solid tumors for the development of "smart" imaging system and therapeutic plant virus nanoparticles (PVN) using a potent chemotherapeutic (doxorubicin, DOX), widely used in treatment of several cancers. The efficacy of the developed "smart" PVNs-based system is
Solid tumors	

tested for the possibility to overcome the brain blood barrier (BBB) and/or increase the net uptake of DOX in the nuclei of Medullo Blastoma (MB) cells using consolidated <i>in vitro</i> and <i>in vivo</i> MB models.
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Part IX – Editorial activity

GUEST EDITOR for the special issue: “Plant-Made Biologics” on BIOMED RESEARCH INTERNATIONAL (2014), Published by Hindawi.

GUEST EDITOR for the special issue: "Isolation, identification and bioactivity of food-derived compounds" 1st edition; on MOLECULES (2022), Published by MDPI.

GUEST EDITOR for the special issue: "Isolation, identification and bioactivity of food-derived compounds" 2nd edition; on MOLECULES (2023), Published by MDPI.

GUEST EDITOR for the special issue: " Advances in Secondary Metabolites: Phytochemical Analysis and Bioactivity Assays " 1st edition; on METABOLITES (2024), Published by MDPI.

GUEST EDITOR for the special issue: " Advances in Secondary Metabolites: Phytochemical Analysis and Bioactivity Assays " 2nd edition; on METABOLITES (2025), Published by MDPI.

Currently reviewer for the following journals:

Natural Products Research, Published by Taylor & Francis.

Journal of Essential Oil Research, Published by Taylor & Francis.

Frontiers in Plant Science, Published by Frontiers.

Vaccine, Published by Elsevier.

Part X – Summary of Scientific Achievements

XIA – Bibliometric indicators on the overall career

Product type	Number	Data Base	Start	End
Papers [international]	68	Scopus	2001	2023
Book chapter [scientific]	1	Scopus	2001	2023

Total Impact factor	226,8
Average Impact factor per Product	3,38
Total Citations	2319
Average Citations per Product	31,48
Hirsch (H) index	27

Part XI– Patents

- 1- **PCT patent application** no. PCT/IB2023/060208 dated Oct 11, 2023 for:
COMPOSITION COMPRISING NOT PHOSPHORYLATED TRYPTAMINES, ANTIOXIDANTS,
AND SUPPLEMENTS, AND PHARMACEUTICAL USES THEREOF
in the name of: SINTALICA S.R.L.
Inventors: CACCIOTTI Ilaria, CUZZOCREA Salvatore, MONDELLO Luigi, NOTTI Anna,
SANTI Luca, TROPEA Alessia.
- 2- **PCT patent application** no. PCT/IB2023/060210 dated Oct 11, 2023
for: COMPOSITION COMPRISING TRYPTAMINES AND MAOIS COMPOUNDS SELECTED
FROM β -CARBOLINE INHIBITORS, AND PHARMACEUTICAL USES THEREOF
in the name of: SINTALICA S.R.L.
Inventors: **SANTI Luca**, MONDELLO Luigi, NOTTI Anna, CACCIOTTI Ilaria, CUZZOCREA
Salvatore.
- 3- **PCT patent application** no. PCT/IB2023/060211 dated Oct 11, 2023
for: DELIVERY SYSTEM FOR THE CONTROLLED RELEASE OF PSYCHEDELIC
COMPOUNDS, PHARMACEUTICAL COMPOSITION AND USES THEREOF
in the name of: SINTALICA S.R.L.
Inventors: **SANTI Luca**, MONDELLO Luigi, NOTTI Anna, CACCIOTTI Ilaria, CUZZOCREA
Salvatore.
- 4- **Italian patent application** No. 102022000026703 filed on December 23, 2022, for:
NON-HALLUCINOGENIC TRYPTAMINE COMPOUNDS, PREPARATION,
PHARMACEUTICAL COMPOSITIONS AND USES THEREOF
in the name of: SINTALICA S.R.L.
Inventors: **SANTI Luca**, MONDELLO Luigi, NOTTI Anna, CACCIOTTI Ilaria, CUZZOCREA
Salvatore.

Rome, 22/10/2025

Luca Santi

