



Europass Curriculum Vitae



Name/ Surname
Address

Antonella Di Sotto

Department of Physiology and Pharmacology "V. Erspamer"
Faculty of Pharmacy and Medicine, Sapienza University of Rome, Italy

CURRENT POSITION

Associate Professor of Pharmacology (BIOS-11/A, former BIO/14)
Academic Recruitment Field 05/G1, Scientific Disciplinary Sector BIOS

Dates

From 01/09/2024 – present

Main activities and
responsibilities

Research activity

- Study of the chemopreventive, chemosensitizing and neuroprotective properties of natural substances and herbal preparations as adjuvants in cancer treatment.
- Investigation of the chemopreventive and immunomodulatory properties of bacterial vesicles.
- Study of the nutraceutical and health-promoting properties of extracts from medicinal plants, endemic species, agri-food by-products and food plants.
- Evaluation of the impact of innovative and sustainable cultivation systems on the pharmacological and/or nutraceutical properties of plant extracts and their mixtures.
- Characterization of the toxicological mechanisms underlying adverse reactions to natural products.
- Data analysis and publication of research results in peer-reviewed scientific journals.

Teaching activity

- Lecturer in Pharmacognosy and Phytotherapy (Degree in Pharmacy), Pharmacognostic Biotechnologies (Degree in Pharmaceutical Biotechnology) and Applied Pharmacognosy (Degree in Applied Pharmaceutical Sciences), and President of the relevant examination boards.
- Member of examination boards for Pharmacognosy, Phytotherapy, Toxicology and Phytovigilance for the degree programmes in Pharmacy, Chemistry and Pharmaceutical Technologies, Applied Pharmaceutical Sciences and Pharmaceutical Biotechnology.
- Tutor and co-tutor of undergraduate internships and final degree theses for students of Pharmacy, Chemistry and Pharmaceutical Technologies, Pharmaceutical Biotechnology and Applied Pharmaceutical Sciences, as well as for the Master in Integrated Medicine in Pharmacy (Faculty of Pharmacy and Medicine).
- Tutor and co-tutor of PhD students in Toxicology (Faculty of Pharmacy and Medicine).
- Tutor of short research projects or laboratory activities replacing the professional traineeship for the Degree in Applied Pharmaceutical Sciences.
- Tutor of the 3 ECTS biological laboratory for the Degree in Pharmaceutical Biotechnology.
- Tutor for professional traineeships for students enrolled in the Degree in Pharmacy.

- Member of the Faculty Council of Pharmacy and Medicine, the Department Council of Physiology and Pharmacology "V. Erspamer", and the Degree Programme Councils in Pharmacy, Applied Pharmaceutical Sciences and Pharmaceutical Biotechnology.
- Member of the PhD Board in Pharmacology and Toxicology.
- Member of the Scientific and Teaching Board of the Second-level Master in Integrated Medicine in Pharmacy.
- Member of the Student Affairs Committee and Tutor for the transition to the qualifying Master's degree in Pharmacy, and member of the Teaching Committee for the Master's Degree in Pharmaceutical Biotechnology.
- Member of the Committee for compensatory measures for the recognition of the pharmacist qualification obtained abroad.
- Member of the Third Mission Committee of the Department of Physiology and Pharmacology "V. Erspamer"
- Member of the Quality Assurance Committee of the Department of Physiology and Pharmacology "V. Erspamer"
- QUID Tutor (from 2025) for RTT researchers within the Quality and Innovation of Teaching (QUID) program.

Third Mission and Orientation activities

- Training and prevention activities for lower secondary school students on the risks associated with substance abuse and new psychoactive substances.
- Training activities for companies and professionals on risks related to interactions associated with the use of herbal preparations.
- Orientation activities for upper secondary school students on degree programmes in the pharmaceutical area within the POT-Pharmacy project.
- Orientation activities for upper secondary school students on university studies within the Next Generation EU programme.
- Orientation activities for upper secondary school students on the history of medicines and applied research on medicinal plants within STEM enhancement projects.
- Scientific dissemination activities on pharmacological properties and toxicological risks associated with the use of herbal preparations, natural products and medicines.

Dates

From June 2021 – present

Position held Main activities and responsibilities

Editorial Contributor and Editorial Board Member – SIF Magazine (online journal)

Author of science communication articles on medicinal plants and pharmaceuticals, with particular focus on herbal medicinal products.

supervision and coordination of outreach articles produced by the editorial team.

Name and address of employer Sector

Italian Society of Pharmacology (SIF)

Scientific dissemination

Dates

From 2020–present

Position held

Lecturer in the Second-level Master in Integrated Medicine in Pharmacy, Sapienza University of Rome

Name and address of employer Sector

Sapienza University of Rome – 5, Piazzale Aldo Moro, 00185, Rome, Italy

Research, University Teaching, Third Mission and Orientation Activities

Dates

From September 2017 – Present

Position held

Lecturer for the course "Pharmacological Techniques for the Evaluation of Xenobiotic Activity" within the PhD Programme in Pharmacology and Toxicology – Advanced institutional course.
Delivery of lectures and assessment of acquired knowledge.

Main activities and responsibilities

Name and address of employer Sector

Sapienza University of Rome – 5, Piazzale Aldo Moro, 00185, Rome, Italy

University Teaching

Dates	From January 2016 – Present
Position held Main activities and responsibilities	<i>Toxicological Scientific Consultancy on Natural and Homeopathic Products</i> Consultancy activity carried out in line with the toxicological and pharmacognostic expertise of Dr. Di Sotto and in accordance with the regulations governing authorized extra-institutional activities approved by Sapienza University of Rome. Preparation of regulatory dossiers for the registration of homeopathic medicinal products, with particular reference to Module 4, determination of the First Safe Dilution, assessment of safety limits, and definition of indications for use and contraindications. Preparation of documentation for medical devices and food supplements.
Name and address of employer Sector	<i>Vanda Omeopatici S.r.l., Via Solferino 10, Frascati (Rome), Italy</i> Third Mission – Regulatory Sciences – Homeopathic Medicinal Products and Food Supplements
PREVIOUS ACADEMIC POSITIONS	
Name and address of employer Sector	Sapienza University of Rome – 5, Piazzale Aldo Moro, 00185, Rome, Italy Research, University Teaching
Dates Position held	Academic Years 2019-2020 and 2020-2021 <i>Adjunct Professor for the course Applied Pharmacognosy in the Degree Programme in Applied Pharmaceutical Sciences, Faculty of Pharmacy and Medicine, Sapienza University of Rome (Fixed-term teaching contracts: Academic Years 2018–2019 and 2020–2021).</i>
Dates Position held Main activities and responsibilities	From February 2019 to January 2021 <i>Research Fellow</i> Principal Investigator of the research project “Evaluation of the ability of natural sesquiterpenes to counteract smoke-induced hypoxia and autophagy in cancer cells”, including coordination of research activities, data analysis and publication of results.
Dates Position held	From September 2018 to December 2019 <i>Adjunct Professor for the courses Applied Pharmacognosy (Degree Programme in Applied Pharmaceutical Sciences) and Pharmacognostic Biotechnologies (Degree Programme in Pharmaceutical Biotechnology), Faculty of Pharmacy and Medicine, Sapienza University of Rome (Fixed-term teaching contract, Academic Year 2018–2019).</i>
Dates Position held	From March 2018 to December 2019 <i>Lecturer in Phytovigilance for the Degree Programme in Applied Pharmaceutical Sciences.</i>
Dates Position held	From September 2017 to December 2018 <i>Lecturer in Toxicology for the Degree Programme in Applied Pharmaceutical Sciences.</i>
Dates Position held	From September 2015 to December 2018 <i>Lecturer in Pharmacognosy for the Degree Programme in Pharmaceutical Biotechnology.</i>
Dates Position held Research project	From January 2014 to December 2018 <i>Fixed-term Researcher – Type A (RTD-A; Italian Law 240/2010 – “Gelmini Law”) Academic Recruitment Field: 05/G1; Scientific Disciplinary Sector: BIO/14 (formerly BIO/15)</i> Identification of new natural products as potential chemopreventive agents.
Dates Position held	Academic year 2013 – 2014 Seminars and laboratory practical classes for the courses Applied Pharmacology and Phytovigilance and Toxicology within the Degree Programme in Applied Pharmaceutical Sciences.

Dates	From 1 July 2013 to 31 July 2013
Position held	<i>Postdoctoral Research Fellow</i>
Research project	Mutagenicity studies on piperitenone oxide.
Dates	From September 2011 to December 2019
Position held	<i>Lecturer in Applied Pharmacognosy for the Degree Programme in Applied Pharmaceutical Sciences.</i>
Dates	From June 2010 to May 2013
Position held	<i>Fixed-term Researcher (RTD; Art. 1, Paragraph 14, Law 230/2005) - Scientific Disciplinary Sector: BIO/15</i>
Research project	Pharmacological and toxicological studies on natural products and their phytoconstituents
Dates	From 1 July 2013 to 31 July 2013
Dates	Academic year 2013 – 2014
Position held	<i>Educational activities in schools</i>
Main activities and responsibilities	Seminars on the toxicological risks associated with the use of narcotic substances and smart drugs within the project “If I don’t try it... I don’t believe it!”, delivered to lower secondary school students in Frosinone (Italy).
Name and address of employer	Mens Sana Onlus – Aquino (FR)
Sector	Third Mission
Dates	From 2009 to 2020
Position held	<i>Co-supervisor of internships and final PhD theses for doctoral students in Toxicology (Faculty of Pharmacy and Medicine).</i>
Name and address of employer	Sapienza University of Rome – 5, Piazzale Aldo Moro, 00185, Rome, Italy
Sector	Research, University Teaching
Dates	From November 2008 to May 2010
Position held	<i>Postdoctoral Researcher - Funded by the “Enrico and Enrica Sovena” Foundation</i>
	<i>Research activity</i>
	- Genotoxicity and antimutagenicity studies on natural substances. - Hepatotoxicity studies related to natural products. - Evaluation of the biological properties of natural products used in traditional medicine.
Dates	From 1 November 2005 to 31 October 2008
Position held	<i>PhD student</i>
Research Project	In vitro study of the genotoxic risk associated with the use of natural substances employed as fragrances.
Data	November 2004 – September 2005
Position held	<i>Research Fellow - Funded by the “Enrico and Enrica Sovena” Foundation</i>
Research Project	- In vitro evaluation of the toxicological risk associated with the use of selected β-adrenergic substances in animal husbandry.
Dates	2000-2004
Position held	<i>Scholarship Student</i>
Main activities and responsibilities	- Laboratory assistant for Pharmacy students.

- Tutor in Inorganic and Organic Chemistry for students enrolled in the Degree Programme in Dentistry.
 - Library assistant for the Departments of Microbiology and Pharmacology of Natural Substances and General Physiology, with responsibilities including administration, cataloguing, user support, and bibliographic research using biomedical and scientific databases.

EDUCATION AND TRAINING

Date	September 2022 – June 2024
Qualification awarded	<i>Training Programme in Teaching Quality Innovation – QUID (Quality of Educational Innovation), 5th edition (2022–2024)</i>
Name and type of organisation providing education and training	Sapienza University of Rome, Italy
Date	November 2023
Qualification awarded	Italian National Scientific Qualification (ASN) – Full Professor level (First Fascia)
Name and type of organisation providing education and training	Academic Recruitment Field 05/G1 – Scientific Disciplinary Sector BIO/14
Date	November 2023
Qualification awarded	<i>Online Training in Regulatory Affairs</i> (Preparation for the systematic review “ <i>Viscum album</i> L.: from safety to regulatory landscape. A systematic review”)
Name and type of organisation providing education and training	Italian Medicines Agency (AIFA – Agenzia Italiana del Farmaco), Italy
Date	April 2023
Qualification awarded	Inventor of the patent “Compositions with antioxidant, antiviral, and immunomodulating activity comprising extracts of hops (<i>Humulus lupulus</i> L.) and elderberry (<i>Sambucus nigra</i> L.) standardized in flavonoids” Patent application filed by Istituto Farmochimico Fitoterapico EPO S.r.l. (Application number: 102023000008370)
Name and type of organisation providing education and training	Ministry of Enterprises and Made in Italy, Italy
Date	November 2018
Qualification awarded	Italian National Scientific Qualification (ASN) – Associate Professor level (Second Fascia)
Name and type of organisation providing education and training	Academic Recruitment Field 05/G1 – Scientific Disciplinary Sector BIO/14
Date	2012
Qualification awarded	Training course: “Recognition and Reporting of Adverse Reactions to Natural Products”
Name and type of organisation providing education and training	Istituto Superiore di Sanità (ISS) – National Centre for Epidemiology, Surveillance and Health Promotion, Rome, Italy
Date	Gennaio 2009
Qualification awarded	<i>PhD in Toxicology</i>
Name and type of organisation providing education and training	Department of Physiology and Pharmacology “V. Erspamer” Sapienza University of Rome, 5 Piazzale Aldo Moro, 00185 Rome, Italy
Date	January – July 2008
Qualification awarded	<i>Internship</i>
Name and type of organisation providing education and training	University of Bologna – Alma Mater Studiorum, 48 Via Irnerio, 40126 Bologna, Italy

Date
Qualification awarded
Name and type of organisation
providing education and training

June 2007
Basic Course in Epidemiology
 Istituto Superiore di Sanità (ISS) – National Centre for Epidemiology, Surveillance and Health
 Promotion, Rome, Italy

Date
Qualification awarded
Name and type of organisation
providing education and training

February – May 2005
Visiting scientist
 Research Toxicology Center,
 12/14 Via Tito Speri, 00040 Pomezia (Rome), Italy

Date
Qualification awarded
Name and type of organisation
providing education and training

December 2004
 Professional Qualification as Pharmacist
 Sapienza University of Rome, 5 Piazzale Aldo Moro, 00185 Rome, Italy

Date
Qualification awarded
Name and type of organisation
providing education and training

1998-2004
Degree in Pharmacy
 Sapienza University of Rome, 5 Piazzale Aldo Moro, 00185 Rome, Italy

Date
Qualification awarded
Name and type of organisation
providing education and training

1993-1997
Classical High School Diploma
 Liceo Classico "G. Carducci",
 1 Via Lombardia, Cassino (FR), Italy

PERSONAL SKILLS AND COMPETENCES

Mother tongue
 Other languages – self-assessment
European level ()*

English
 French

Italian

Listening				Spoken				Writing	
Listening		Reading		Interaction		Production			
	o								
B2	Intermediate	B2	Intermediate	B2	Intermediate	B2	Intermediate	B2	Intermediate
A2	Elementary	A2	Elementary	A2	Elementary	A2	Elementary	A2	Elementary

(*) [Common European Framework of Reference for Languages](http://www.cedefop.europa.eu/en/files/questdocument/CEFR.pdf)

**Organisational skills and
competences**

- Ability to work flexibly, both independently and within a team, with a strong aptitude for interpersonal relations.
- Leadership skills, developed through experience in coordinating students during internships and undergraduate, master's and PhD thesis activities.
- Experience in research project management and coordination of research teams.

Computer skills and competences

Good command of a wide range of software and digital tools, including:

- Microsoft Office tools (Word, Excel, PowerPoint, Access, Outlook, Paint);
- Statistical software (GraphPad Prism, SigmaPlot, SigmaStat, Tallarida);
- Graphical and image analysis software (ImageJ, CorelDRAW, Microsoft Photo Editor, Photoshop);
- Biomedical and scientific databases (PubMed, Scopus, ToxNet, RTECS, Web of Science, Journal Citation Reports, ACNP).

OTHER INFORMATIONS

Research Grants and Funding

Dr. Antonella Di Sotto has served as Principal Investigator (PI) of the following funded research projects:

- Protective effects of some terpenes against the genotoxicity of tobacco smoke – Sapienza University of Rome, Research Project, 2011.
- Pontecorvo Cornetto Pepper: a potential functional food – Sapienza University of Rome, FARI Project, 2012.
- Natural substances for preventing DNA damage induced by tobacco smoke – Sapienza University of Rome, Research Project, 2013.
- Natural sesquiterpenes as chemotherapeutic and chemosensitizing agents in liver cancer cells – Sapienza University of Rome, Research Project, 2014.
- Evaluation of the chemopreventive effects of beta-caryophyllene in a rat model of hepatocellular carcinoma – Sapienza University of Rome, Research Project, 2015.
- Natural sesquiterpenes in the chemoprevention of biochemical and epigenetic airway changes induced by tobacco smoke exposure – Sapienza University of Rome, Research Project, 2017.
- SIS-MEDPLANTS: Sustainable and innovative strategies to preserve and develop medicinal plant biodiversity in the global warming era – PNR SEED Project, Funding for transversal research topics within the National Recovery Plan (PNR), 2021.
- Unraveling the role of autophagic cell death in the sorafenib chemosensitization by caryophyllane sesquiterpenes in pancreatic cancer cells – Sapienza University of Rome, Small University Research Grant (Bando di Ateneo), 2022.
- Exploring the role of caryophyllane sesquiterpenes as protective agents against chemotherapy-induced neurotoxicity in brain cells – Principal Investigator, Sapienza University of Rome, University Research Grant (Bando di Ateneo), 2023.
- Studying the effects of an experimental gas mixture on the antioxidant and cytoprotective properties of medicinal plants grown under innovative cultivation conditions – Principal Investigator, Third-party funded research project (SIAD – Società Italiana Acetilene e Derivati S.p.A.).

Dr. Di Sotto has also been a member of the research unit in several funded projects led by other Principal Investigators (Professors G. Mazzanti, M. Eufemi, L. Nencioni, L. Mannina, A. Vitalone, S. Gaetani), including:

- Ri-cicloHorto – Supplements, Well-being, Sustainability and Biostimulants – Lazio Region Project (PI: Prof. L. Mannina).
- PE10 – Spoke 3: Foods and ingredients for human well-being and health, Extended Partnership ONFOODS (Research and Innovation Network on Food and Nutrition: Sustainability, Safety and Security – Working ON Foods), Project code PE_00000003, CUP: B53C22004030001 (PI: Prof. L. Mannina).
- Innovation in pharmacological therapy for pre- and post-operative prophylaxis in ophthalmic surgery – Innovation Agreement DM 31/12/2021, Ministry of Economic Development, Project no. F/310139/01-02/X56, position no. 139 (PI: Prof. R. Ragno).
- Hydroponic medicinal plants in the era of global warming: an innovative strategy for the protection and development of biodiversity (PI: Prof. A. Vitalone).
- Study of β -caryophyllene as a possible modulator of metabolic changes induced by neuroinflammation – Rome Technopole Project (PI: Prof. A. Romano).
- Study of β -caryophyllene as a possible modulator of metabolic changes induced by neuroinflammation – Departmental Research Project, Sapienza University of Rome, University Call 2024 (Prot. RD1241910337879A).

Dr. Antonella Di Sotto is responsible for Collaboration Agreements with Scientific Societies and for third-party funded research agreements.

	She was a recipient of FFABR funding in 2017 (Fund for the Financing of Basic Research Activities), established by the Italian Budget Law 2017 (Law 232/2016, paragraph 29) within the Ordinary Funding Fund for State Universities, pursuant to Article 5 of Law no. 537 of 24 December 1993.
Major National and International Scientific Collaborations	National Academic Collaborations (Italy) Dr. Di Sotto has established active research collaborations with several Italian universities and departments, including the Universities of Bologna, Chieti–Pescara, Catania and Naples, as well as with multiple departments of Sapienza University of Rome, covering the areas of pharmacology, pharmacognosy, pharmaceutical sciences, biochemistry, experimental medicine, public health, environmental biology and cardiovascular–respiratory sciences. She has also developed international research collaborations with academic institutions and research centres in Europe, the Middle East and North Africa, particularly in the fields of pharmacognosy, pharmacology, toxicology and natural product research. These collaborations involve universities and research groups in Iran, Lithuania, the Czech Republic, Montenegro and Morocco, and focus on multidisciplinary approaches to the study, development and safety assessment of natural products and bioactive compounds. Industry Collaboration Dr. Di Sotto has collaborated with industrial partners operating in the fields of medicinal plants, nutraceuticals, functional foods and innovative cultivation systems, within research, development and technology transfer activities.
Awards and Honors	Awards as author and co-author of best scientific contributions (posters): 2019 – Best Poster Communication Award, Thematic Conference “Pharmacological Bases of Nutraceuticals”, organized by the Working Group on Pharmacognosy, Phytotherapy and Nutraceuticals of the Italian Society of Pharmacology (SIF), Naples, Italy, 29–30 March 2019. 2019 – Recognition by the Italian Society of Pharmacology (SIF) as collaborator of the “Safety of Complementary and Alternative Medicine” section of the SIF Pharmacovigilance website, Florence, Italy, 22 November 2019. 2022 – Merit-based Researcher Award, granted within the initiatives of the Lazio Region aimed at strengthening the professional position of researchers and enhancing the regional research system, under Policy Objective 4 “A More Social Europe”, funded by the European Social Fund Plus (ESF+) 2021–2027.
Membership in National and International Scientific Societies and Working Groups	Member of the following Scientific Societies: ▪ <i>European Society for Medical Oncology (ESMO) – Member.</i> ▪ <i>Italian Society of Pharmacology (SIF) – Member.</i> ▪ <i>Working Group on Pharmacognosy, Phytotherapy and Nutraceuticals, Italian Society of Pharmacology (SIF) – Board Member.</i> ▪ <i>Latin Mediterranean Pharmaceutical Society (SFML) – Member.</i> ▪ <i>Italian Society of Pharmacognosy (SIPHAR) – Member of the Executive Board and Secretary.</i> ▪ <i>Italian Society of Tobaccology (SITAB) – Member.</i>
Member of Committees	Member of Committees and Evaluation Panels - ISS – EFSA Focal Point (Istituto Superiore di Sanità), Member (from 1 April 2015 – present). - Member of PhD Thesis Evaluation Boards for the following universities: University of Bologna, University of Rome “Tor Vergata”, University of Messina, Lithuanian University of Health Sciences – Medical Academy

- REPRISE (Register of Expert Peer Reviewers for Italian Scientific Evaluation), Ministry of Education, Universities and Research (MIUR), appointed under Ministerial Decree no. 380 of 13 June 2016.
- AGENAS (National Agency for Regional Health Services) – Expert evaluator in the clinical, organizational, epidemiological and social area.

Editorial Activity

Editorial and Peer-Review Activities

Guest Editor of Special Issues:

- “Natural Products and Hepatic Health: Lights and Shadows” – Frontiers in Pharmacology
- “Plant Polyphenols and Human Health: Novel Findings for Future Therapeutic Developments” – Nutrients
- “Recent Advances in Natural Products Discoveries: Pharmacology and Mechanisms” – Pharmaceuticals
- “Pharmacological Basis of Plant Polyphenol Bioactivities: From Preclinical Evidence to Clinical Translation” – Nutrients
- “Exploring Natural Products as Modulators of Oxidative Stress in Health and Disease” – Pharmaceuticals

Topic Editor – Nutrients.

Academic Editor – Evidence-Based Complementary and Alternative Medicine.

Ad hoc reviewer for several international peer-reviewed scientific journals.

Maternity Leave

From May 2009 to December 2009

RESEARCH ACTIVITY **Keywords:**

Natural substances; Medicinal plants; Nutraceuticals; Chemoprevention; DNA-damage; Oxidative stress; Chemosensitizing agents; Environmental pollutants; caryophyllane sesquiterpenes; STAT3, Nrf2; inflammation

Dr. Antonella Di Sotto has carried out basic research on natural products and substances of natural origin in the fields of Pharmacognosy and Pharmacology–Toxicology of natural substances and plant extracts. Within this framework, her main research has focused on the chemopreventive and genoprotective properties of natural compounds against environmental carcinogens and on their ability to interfere with mechanisms of chemoresistance. In addition, she has investigated the chemosensitizing potential of natural substances and products, including bacteria-derived vesicles, in combination with anticancer drugs.

She has been actively involved in the phytochemical and pharmacological characterization of plant-based preparations obtained from different matrices, including medicinal plant extracts and agri-food by-products, with the aim of promoting their potential application in the pharmaceutical and nutraceutical fields. Furthermore, she has investigated the toxicological mechanisms underlying adverse hepatic reactions associated with the use of herbal extracts.

The main research lines include:

- In vitro studies on the chemopreventive properties of caryophyllane sesquiterpenes against damage induced by environmental pollutants, and investigation of their possible mechanisms of action.
- Evaluation of natural substances and products as chemosensitizing agents in tumour cell models, with characterization of the underlying molecular mechanisms.
- In vitro studies of the antioxidant, cytoprotective, antiviral and immunomodulatory properties of medicinal plant extracts and their mixtures.
- Valorisation of agri-food production waste as potential sources of nutraceutical compounds.
- Development of in vitro models to investigate toxicological mechanisms underlying hepatotoxic reactions associated with natural products.

During her PhD in Toxicology and subsequent postdoctoral research, particularly as a Research Fellow and fixed-term researcher (RTD and RTDA), Dr. Di Sotto focused her research on caryophyllane sesquiterpenes as potential chemopreventive agents, demonstrating significant genoprotective and cytoprotective effects against toxic substances, cigarette smoke and cigarette

butts, as well as pesticides. Their chemosensitizing properties were also highlighted in tumour cell models in combination with anticancer drugs, supporting their potential relevance in cancer research. These studies also addressed the modulation of key signalling pathways involved in carcinogenesis and chemoresistance, including STAT3, H2AX and Nrf2, as well as specific cellular targets such as membrane permeability, transporters and the endocannabinoid system.

With regard to plant extract studies, Dr. Di Sotto has conducted extensive phytochemical and pharmacological characterization of products obtained from medicinal plants, agri-food by-products and food plants. Pharmacological studies were also performed to provide scientific validation of traditional uses. She investigated the functional properties of several plant-derived foods, including Pontecorvo DOP pepper, Torpedino tomato and Sperlonga white celery, particularly focusing on their role as regulators of carbohydrate metabolism and antioxidant agents. Production wastes such as pomegranate and eggplant peels and goji leaves were also evaluated, revealing their potential as sources of nutraceutical compounds.

Finally, Dr. Di Sotto has studied the toxicity profile, particularly genotoxicity, of chemical substances, environmental pollutants (e.g. cigarette smoke, cigarette butts, pesticides, cosmetic and food additives) and natural products. Among pesticides, her recent research has focused on environmental decontamination and chemopreventive strategies using natural substances to counteract damage induced by lindane, a well-known carcinogenic and endocrine-disrupting compound.

Her research activity, documented by more than 90 scientific publications in peer-reviewed journals, chapter books and abstracts presented at national and international conferences, has been conducted within multidisciplinary intra- and inter-university collaborations, as well as collaborations with companies operating in the medicinal plant and dietary supplement sectors (e.g. IDROLUPPOLO, Vanda Srl, EPO Srl). This activity has been supported by several competitive research grants, for which Dr. Di Sotto has served as Principal Investigator.

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Scopus Author Identifier 24331172000 (Citazioni total 2533; Hirsch (H) index 31)

Selected Scientific Publications in the last

(* corresponding author)

1. **Di Sotto A.**, Evandri M.G., Mazzanti G. Antimutagenic and mutagenic activities of some terpenes in the bacterial reverse mutation assay. *Mutation Research - Genetic Toxicology and Environmental Mutagenesis* 2008 May 31;653(1-2):130-3. doi: 10.1016/j.mrgentox.2008.04.004. IF₂₀₀₈ 2.363
2. **Di Sotto A.**, Chiaretti M., Carru A., Bellucci S., Mazzanti G. Multi-Walled Carbon Nanotubes: lack of mutagenic activity in the bacterial reverse mutation assay. *Toxicology Letters* 2009 Feb 10;184(3):192-7. doi: 10.1016/j.toxlet.2008.11.007. IF₂₀₀₉ 3.479
3. **Di Sotto A.**, Vitalone A., Nicoletti M., Piccin A., Mazzanti G. Pharmacological and phytochemical study on a *Sisymbrium officinale* Scop. extract. *Journal of Ethnopharmacology* 2010 Feb 17;127(3):731-6. doi: 10.1016/j.jep.2009.12.001. IF₂₀₁₀ 2.466
4. **Di Sotto A.**, Mazzanti G., Carbone F., Hrelia P., Maffei F. Genotoxicity of lavender oil, linalyl acetate and linalool on human lymphocytes *in vitro*. *Environmental and Molecular Mutagenesis* 2011 Jan;52(1):69-71. doi: 10.1002/em.20587. IF₂₀₁₁ 3.709
5. **Di Sotto A.***, Di Giacomo S., Vitalone A., Nicoletti M., Mazzanti G. Antimutagenic thio compounds from *Sisymbrium officinale*. *Journal of Natural Products* 2012 Dec 28;75(12):2062-8. doi: 10.1021/np300244q. IF₂₀₁₂ 3.285
6. Di Giacomo S., Mazzanti G., **Di Sotto A.***. Mutagenicity of cigarette butt waste in the bacterial reverse mutation assay: the protective effects of β -caryophyllene and β -caryophyllene oxide. *Environmental Toxicology* 2016 Nov;31(11):1319-1328. doi: 10.1002/tox.22136. IF₂₀₁₆ 2.937
7. **Di Sotto A.***, Di Giacomo S., Abete L., Božovic M., Parisi O.A., Barile F., Vitalone A., Izzo A.A., Ragno R., Mazzanti G. Genotoxicity assessment of piperitenone oxide: An *in vitro* and *in silico* evaluation. *Food and Chemical Toxicology* 2017 Aug;106(Pt A):506-513. doi: 10.1016/j.fct.2017.06.021. IF₂₀₁₇ 3.977
8. Di Giacomo S., Abete L., Cocchiola R., Mazzanti G., Eufemi M., **Di Sotto A.*** Caryophyllane sesquiterpenes inhibit DNA-damage by tobacco smoke in bacterial and mammalian cells. *Food and Chemical Toxicology* 2018 Jan;111:393-404. doi: 10.1016/j.fct.2017.11.018. IF₂₀₁₈ 3.977

9. Toniolo C., **Di Sotto A.***, Di Giacomo S., Ventura D., Casoli E., Belluscio A., Marcello N., Ardizzone G. Seagrass *Posidonia oceanica* (L.) Delile as a marine biomarker: a metabolomic and toxicological analysis. *Ecosphere* 2018 Mar; 9:1-18. doi: 10.1002/ecs2.2054. IF₂₀₁₈ 2.746
10. **Di Sotto A.***, Abete L., Toniolo C., Mannina L., Locatelli M., Giusti A.M., Nicoletti M., Vecchiato M., Di Giacomo S. *Capsicum annuum* L. var. Cornetto di Pontecorvo PDO: polyphenolic profile and *in vitro* biological activities. *Journal of Functional Foods* 2018 Jan;40:679–691. doi: 10.1016/j.jff.2017.11.041. IF₂₀₁₈ 3.197
11. Sobolev A.P., Mannina L., Sanzò G., Fornarini S., Carradori S., Locatelli M., Giusti A.M., Simonetti G., Vinci G., Preti R., Abete L., **Di Sotto A.** A multi-methodological approach in the study of two different cultivations of Italian red sweet pepper (*Capsicum annuum* L.) var. "Cornetto di Pontecorvo". *Food Chemistry* 2018 Jul;255: 120–131. doi: 10.1016/j.foodchem.2018.02.050. IF₂₀₁₈ 5.399
12. **Di Sotto A.***, Checconi P., Celestino I., Locatelli M., Carissimi S., De Angelis M., Rossi V., Limongi D., Toniolo C., Martinoli L., Di Giacomo S., Palamara A.T., Nencioni L. Antiviral and antioxidant activity of a hydroalcoholic extract from *Humulus lupulus* L. *Oxidative medicine and cellular longevity* 2018 Jul 24;2018:5919237. doi: 10.1155/2018/5919237. IF₂₀₁₈ 4.868
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