


PERSONAL INFORMATION **Dante Rotili**

 Sant'Orsola Street n. 31, 00162, Rome (Italy)

 +39-06-43427557  +39-3332749347

 dante.rotili@uniroma3.it

 PEC: rd288ri2305@pec.fofi.it

Scopus Author's ID8577500500

 ORCID ID: <https://orcid.org/0000-0002-8428-8763>

Sex M | Date of birth 22/07/1977 | Nationality Italian

WORK EXPERIENCE

- | | |
|--|---|
| <ul style="list-style-type: none"> • Dates (from - to) • Name and address of the employer • Occupation or position held <ul style="list-style-type: none"> • Main activities and responsibilities | <p>From November 1st, 2024, to date
 "Roma Tre" University,
 Department of Science
 Full Professor of Medicinal Chemistry
 Research and teaching in the field of Medicinal Chemistry
 Supervision of Master's Degree and PhD theses in Medicinal Chemistry
 From Academic Year 2024/2025 to date: Teaching of Drug Analysis with Laboratory (SSD CHEM-07/A), Master's Degree Course in Pharmacy, (12 CFU), "Roma Tre" University</p> |
| <ul style="list-style-type: none"> • Dates (from - to) • Name and address of the employer • Occupation or position held <ul style="list-style-type: none"> • Main activities and responsibilities | <p>From September 1st, 2020, to October 31st, 2024
 "Sapienza" University of Rome, Faculty of Pharmacy and Medicine,
 Department of Chemistry and Technology of Drugs
 Associate Professor of Medicinal Chemistry
 Research and teaching in the field of Medicinal Chemistry
 Supervision of Master's Degree and PhD theses in Medicinal Chemistry
 From Academic Year 2020/2021 to date: Teaching of Pharmaceutical and Toxicological Chemical Analysis with Laboratory (SSD CHIM/08), Master's Degree Course in Pharmacy, channel M-Z (12 CFU), "Sapienza" University of Rome
 From February 2022 to October 2024: Coordinator of the International Degree Course in English entitled "Molecular biology, Medicinal Chemistry and Computer Science for Pharmaceutical Applications".</p> |
| <ul style="list-style-type: none"> • Dates (from - to) • Name and address of the employer • Occupation or position held <ul style="list-style-type: none"> • Main activities and responsibilities | <p>From December 1st, 2011, to August 31st, 2020
 "Sapienza" University of Rome, Faculty of Pharmacy and Medicine,
 Department of Chemistry and Technology of Drugs
 Assistant Professor (Tenured Researcher) of Medicinal Chemistry
 Research and teaching in the field of Medicinal Chemistry
 Supervision of Master's Degree and PhD theses in Medicinal Chemistry
 From March 2019 to date: Member of the teaching board of the PhD Course in "Pharmaceutical Sciences" starting from the XXXV cycle, AY 2019/2020.
 From Academic Year 2013/2014 to 2019/2020: Teaching of Pharmaceutical and Toxicological Chemical Analysis with Laboratory (SSD CHIM/08), Master's Degree Course in Pharmacy, M-Z (12 CFU), "Sapienza" University of Rome</p> |
| <ul style="list-style-type: none"> • Dates (from - to) • Name and address of the employer • Occupation or position held | <p>From March 1st, 2010, to November 30th, 2011
 "Sapienza" University of Rome, Faculty of Pharmacy and Medicine, Department of Chemistry and Technology of Drugs
 Postdoc Research Fellow</p> |

- Main activities and responsibilities
 - Dates (from - to) Research in the field of Medicinal Chemistry
- Name and address of the employer From April 1st, 2009, to September 7th, 2010
University of Oxford, Department of Chemistry
- Occupation or position held **Postdoctoral Research Associate**
 - Main activities and responsibilities Research in the field of Chemical Biology and Medicinal Chemistry
 - Dates (from - to) From December 1st, 2007, to November 30th, 2009
 - Name and address of the employer "Sapienza" University of Rome, Faculty of Pharmacy and Medicine, Department of Pharmaceutical Studies
- Occupation or position held **Postdoc Research Fellow**
 - Main activities and responsibilities Research in the field of Medicinal Chemistry

EDUCATION AND TRAINING

- Dates (from - to) June 4th, 2007
- Name and type of organisation providing education and training "Sapienza" University of Rome, Faculty of Pharmacy
- Principal subjects/occupational skills covered Medicinal Chemistry
- Title of qualification awarded **Ph.D. in Pharmaceutical Sciences**
- Dates (from - to) March 19th, 2003
- Name and type of organisation providing education and training "Sapienza" University of Rome, Faculty of Pharmacy
- Principal subjects/occupational skills covered Medicinal Chemistry
- Title of qualification awarded **Master's Degree in Pharmaceutical Chemistry and Technology**

PERSONAL SKILLS

Organisational / managerial skills

Since December 2011, Prof. Rotili has been the leader of a synthetic medicinal chemistry laboratory. The direction by Prof. Rotili of the activities of a research team endowed with multiple collaborations at national or international level is evidenced by the publications and patents that have often seen (inter)national co-authors, by the research projects admitted to funding and by the participation to the European research network COST.

SCIENTIFIC PROFILE

Since 2003, the research activity of Prof. Rotili has been focusing mainly on the design, synthesis, chemical-physical characterization, and biological validation of modulators of epigenetic enzymes (histone deacetylases, acetyltransferases, methyltransferases, demethylases, sirtuins, and DNA/RNA methyltransferases and demethylases) as potential anticancer and/or antimicrobial agents. Other research topics are the development of HIV-1 reverse transcriptase inhibitors as antiviral agents, and of carbonic anhydrase (CA IX and XII), poly ADP-ribose polymerase (PARP1/2 and TNKS1/2) and glutathione-S-transferase inhibitors as potential anticancer, antiparasitic, and antiviral agents. Since 2009 Prof. Rotili has been also working to develop chemo-proteomics probes for the functional annotation of various epigenetic and non-epigenetic targets. Finally, since 2015 Prof. Rotili has been developing new radiotracers (both small

molecules and radio-immunoconjugates) for tumor radio-guided surgery and enhancers for cancer radiotherapy (boron neutron capture therapy and proton therapy).

Bibliometric Indicators (Scopus):

Publications: **187**; # Citations **7115**; H index **48**.

ADDITIONAL INFORMATION

**Most relevant publications
in the last 15 Years**

- 1) Coccozza G, Busdraghi LM, Chece G, Menini A, Ceccanti M, Libonati L, Cambieri C, Fiorentino F, **Rotili D**, Scavizzi F, Raspa M, Aronica E, Inghilleri M, Garofalo S, Limatola C. GDF15-GFRAL signaling drives weight loss and lipid metabolism in mouse model of amyotrophic lateral sclerosis. *Brain Behav. Immun.* 2025 Feb;124:280-293. doi: 10.1016/j.bbi.2024.12.010.
- 2) Cesaro B, laiza A, Piscopo F, Tarullo M, Cesari E, **Rotili D**, Mai A, Diana A, Londero M, Del Giacco L, Masetti R, Di Leone A, Naro C, Masciarelli S, Fontemaggi G, Sette C, Fazi F, Fatica A. Enhancing sensitivity of triple-negative breast cancer to DNA-damaging therapy through chemical inhibition of the m6A methyltransferase METTL3. *Cancer Commun.* 2024 Feb;44(2):282-286. doi: 10.1002/cac2.12509.
- 3) Spizzichino S, Di Fonzo F, Marabelli C, Tramonti A, Chaves-Sanjuan A, Parroni A, Boumis G, Liberati FR, Paone A, Montemiglio LC, Ardini M, Jakobi AJ, Bharadwaj A, Swuec P, Tartaglia GG, Paiardini A, Contestabile R, Mai A, **Rotili D**, Fiorentino F, Macone A, Giorgi A, Tria G, Rinaldo S, Bolognesi M, Giardina G, Cutruzzola F. Structure-based mechanism of riboregulation of the metabolic enzyme SHMT1. *Mol. Cell* 2024 Jul 25;84(14):2682-2697.e6. doi: 10.1016/j.molcel.2024.06.016.
- 4) Di Timoteo G, Giuliani A, Setti A, Biagi MC, Lisi M, Santini T, Grandioso A, Mariani D, Castagnetti F, Perego E, Zappone S, Lattante S, Sabatelli M, **Rotili D**, Vicidomini G, Bozzoni I. M6A reduction relieves FUS-associated ALS granules. *Nat. Commun.* 2024 Jun 12;15(1):5033. doi: 10.1038/s41467-024-49416-5.
- 5) Fiorentino F, Sementilli S, Menna M, Turrisi F, Tomassi S, Pellegrini FR, Iuzzolino A, D'Acunzo F, Feoli A, Wapenaar H, Taraglio S, Frascchetti C, Del Bufalo D, Sbardella G, Dekker FJ, Paiardini A, Trisciuglio D, Mai A, **Rotili D**. First-in-Class Selective Inhibitors of the Lysine Acetyltransferase KAT8. *J. Med. Chem.* 2023 May 25;66(10):6591-6616. doi: 10.1021/acs.jmedchem.2c01937.
- 6) Zhou J, Horton JR, Menna M, Fiorentino F, Ren R, Yu D, Hajian T, Vedadi M, Mazzocanti G, Ciogli A, Weinhold E, Hüben M, Blumenthal RM, Zhang X, Mai A, **Rotili D**, Cheng X. Systematic Design of Adenosine Analogs as Inhibitors of a *Clostridioides difficile*-Specific DNA Adenine Methyltransferase Required for Normal Sporulation and Persistence. *J. Med. Chem.* 2023 Jan 12;66(1):934-950.
- 7) Minisini M, Di Giorgio E, Kerschbamer E, Dalla E, Faggiani M, Franforte E, Meyer-Almes FJ, Ragno R, Antonini L, Mai A, Fiorentino F, **Rotili D**, Chinellato M, Perin S, Cendron L, Weichenberger CX, Angelini A, Brancolini C. Transcriptomic and genomic studies classify NKL54 as a histone deacetylase inhibitor with indirect influence on MEF2-dependent transcription. *Nucleic Acids Res.* 2022 Mar 21;50(5):2566-2586. doi: 10.1093/nar/gkac081.
- 8) Hu T, Shukla SK, Vernucci E, He C, Wang D, King RJ, Jha K, Siddhanta K, Mullen NJ, Attri KS, Murthy D, Chaika NV, Thakur R, Mulder SE, Pacheco CG, Fu X, High RR, Yu F, Lazenby A, Steegborn C, Lan P, Mehla K, **Rotili D**, Chaudhary S, Valente S, Tafani M, Mai A, Auwerx J, Verdin E, Tuveson D, Singh PK. Metabolic Rewiring by Loss of Sirt5 Promotes Kras-Induced Pancreatic Cancer Progression. *Gastroenterology* 2021 Nov;161(5):1584-1600. doi: 10.1053/j.gastro.2021.06.045. (I.F.: 22,682)
- 9) Pannek M, Simic Z, Fuszard M, Meleshin M, **Rotili D**, Mai A, Schutkowski M, Steegborn C. Crystal structures of the mitochondrial deacylase Sirtuin 4 reveal isoform-specific acyl recognition and regulation features. *Nat. Commun.* 2017;8(1):1513. doi: 10.1038/s41467-017-01701-2. (I.F.: 12,353)
- 10) You W, **Rotili D**, Li TM, Kambach C, Meleshin M, Schutkowski M, Chua KF, Mai A, Steegborn C. Structural Basis of Sirtuin 6 Activation by Synthetic Small Molecules. *Angew.*

- Chem. Int. Ed. Engl.* 2017;56:1007-1011. doi: 10.1002/anie.201610082. (I.F.: 12,102)
- 11) Carafa V, Nebbioso A, Cuomo F, **Rotili D**, Cobellis G, Bontempo P, Baldi A, Spugnini EP, Citro G, Chambery A, Russo R, Ruvo M, Ciana P, Maravigna L, Shaik J, Radaelli E, De Antonellis P, Tarantino D, Piroli A, Ragno R, Zollo M, Stunnenberg HG, Mai A, Altucci L. RIP1-HAT1-SIRT Complex Identification and Targeting in Treatment and Prevention of Cancer. *Clin. Cancer Res.* 2018;24:2886-2900. doi: 10.1158/1078-0432.CCR-17-3081.
 - 12) Moniot S, Forgione M, Lucidi A, Hailu GS, Nebbioso A, Carafa V, Baratta F, Altucci L, Giacchè N, Passeri D, Pellicciari R, Mai A, Steegborn C, **Rotili D**. Development of 1,2,4-Oxadiazoles as Potent and Selective Inhibitors of the Human Deacetylase Sirtuin 2: Structure-Activity Relationship, X-Ray Crystal Structure and Anticancer Activity. *J. Med. Chem.* 2017;60:2344-2360. doi: 10.1021/acs.jmedchem.6b01609.
 - 13) Speranzini V, **Rotili D**, Ciossani G, Pilotto S, Marrocco B, Forgione M, Lucidi A, Forneris F, Mehdipour P, Velankar S, Mai A, Mattevi A. Polymyxins and quinazolines are LSD1/KDM1A inhibitors with unusual structural features. *Sci. Adv.* 2016;2:e1601017.
 - 14) **Rotili D**, Tarantino D, Nebbioso A, Paolini C, Huidobro C, Lara E, Mellini P, Lenoci A, Pezzi R, Botta G, Lahtela-Kakkonen M, Poso A, Steinkühler C, Gallinari P, De Maria R, Fraga M, Esteller M, Altucci L, Mai A. Discovery of salermide-related sirtuin inhibitors: binding mode studies and antiproliferative effects in cancer cells including cancer stem cells. *J. Med. Chem.* 2012;55:10937-10947. doi: 10.1021/jm3011614.
 - 15) **Rotili D**, Altun M, Kawamura A, Wolf A, Fischer R, Leung IK, Mackeen MM, Tian YM, Ratcliffe PJ, Mai A, Kessler BM, Schofield CJ. A photoreactive small-molecule probe for 2-oxoglutarate oxygenases. *Chem. Biol.* 2011;18:642-654. doi: 10.1016/j.chembiol.2011.03.007

Projects/Grants

- 1) From 2023/10/15 to date: National coordinator of the PRIN 2022 project entitled "Sirtuin Inhibitors as New Mitocans". Amount financed: € 194948,00.
- 2) From 2022/12/01 to 2024/10/31: National coordinator of the WP4 entitled "Identification of new therapeutic targets by screening and drug repositioning" within the framework of the SPOKE 5 Next Generation EU PNRR PE6 ("HEAL ITALIA – HEALTH EXTENDED ALLIANCE FOR INNOVATIVE THERAPIES, ADVANCED LAB RESEARCH, AND INTEGRATED APPROACHES OF PRECISION MEDICINE") project. Amount financed: € 165407,25.
- 3) From 2022/01/01 to date: Principal investigator of the project "Modulators of epigenetic targets for the treatment of parasitic diseases." ("Sapienza" University projects 2021). Amount financed: € 14800,00.
- 4) From 2021/03/11 to date: Principal investigator of the project "Preclinical evaluation of 90Y labeled radiopharmaceutical for radio-guided surgery." (Call of the Italian Ministry of Economic Development (MISE) - Program "Boosting Innovation Technology for Market Product Solutions - BIT4MaPS"). Amount financed: € 57000,00.
- 5) From 2021/04/15 to date: Responsible of the research unit of the "Sapienza" University of Rome within the project "Innovative 3D high content imaging methodologies for the validation of new anticancer molecules" (Call of the Regione Lazio, POR FESR Lazio 2014-2020). Amount financed: € 18123,00.
- 6) From 2020/01/01 to date: Principal investigator of the project "Development of glucose-based pure beta minus radiotracers potentially suitable for tumor radioguided surgery" ("Sapienza" University projects 2019). Amount financed: € 14500,00.
- 7) Principal investigator of the project "Development of novel LSD1 inhibitors as potential new generation anticancer agents". (Call of the "Sapienza" University of Rome - University projects 2017). Amount financed: € 13500,00.
- 8) From 2018/01/01 to 2021/12/31: Principal investigator of the two-year TRIDEO 2015 project promoted by AIRC and Fondazione Cariplo Id. 17515, entitled "Toward a change of paradigm in tumor radioguided surgery: development of novel radiotracers exploiting pure beta minus decays." Amount financed: € 99550,00.
- 9) From 2015/01/01 to 2015/12/31: Principal investigator of the annual project "Design, synthesis and biological evaluation of novel DNA methyltransferase inhibitors" ("Sapienza" University AWARDS projects 2014; No. C26H148X4Y). Amount financed: € 53000,00.
- 10) From 2014/03/08 to 2017/03/08: Responsible of the research unit of the "Sapienza" University of Rome of the three-year project PRIN (Scientific Research Programs of

Relevant National Interest) 2012 entitled "Search for new horizons in cancer treatment by integrating innovative drug-screening and rational drug design" (No. 2012CTASY_004). Amount financed: € 104629,00.

- 11) From 2014/01/01 to 2014/12/31: Principal investigator of the annual project "Development of new series of sirtuin inhibitors" ("Sapienza" University projects 2013; No. C26A13SKF7). Amount financed: € 34946,04.
- 12) From 2013/01/01 to 2013/12/31: Principal investigator of the annual project "Novel Probes for Sirtuin Enzymes: a Medicinal Chemistry/Chemical Biology Approach" ("Sapienza" University projects 2012; No. C26A12Y7FB). Amount financed: € 40000,00.

Patents

- 1) USA Patent Application US 2022/0072165 entitled "RADIODRUG FOR DIAGNOSTIC/THERAPEUTIC USE IN NUCLEAR MEDICINE AND RADIO-GUIDED MEDICINE" di Faccini R, Solfaroli Camillocci E, **Rotili D**, Ciogli A, Cartoni A, Fratoddi I, Venditti I, Giordano A, Maccora D, Perotti G, Scotognella T.
- 2) International Patent Application WO 2020/144586 entitled "RADIODRUG FOR DIAGNOSTIC/THERAPEUTIC USE IN NUCLEAR MEDICINE AND RADIO-GUIDED MEDICINE" di Faccini R, Solfaroli Camillocci E, **Rotili D**, Ciogli A, Cartoni A, Fratoddi I, Venditti I, Giordano A, Maccora D, Perotti G, Scotognella T.
- 3) International Patent Application PCT/IB2020/050105 entitled "Radiodrug for diagnostic/therapeutic use in nuclear medicine and radio-guided medicine" by Faccini R, Solfaroli Camillocci E, **Rotili D**, Ciogli A, Cartoni A, Fratoddi I, Venditti I, Giordano A, Maccora D, Perotti G, Scotognella T.
- 4) Italian Granted Patent IT10201900000202 entitled "Radiofarmaco per utilizzo diagnostico terapeutico in medicina nucleare e medicina radio guidata" by Faccini R, Solfaroli Camillocci E, **Rotili D**, Ciogli A, Cartoni A, Fratoddi I, Venditti I, Giordano A, Maccora D, Perotti G, Scotognella T.
- 5) Granted Patent US20180118717 entitled "Substituted quinazoline derivatives as DNA methyltransferase inhibitors" by Halby L, Arimondo P, Mai A, **Rotili D**.
- 6) Patent Application WO2016/151144 A1 entitled "Substituted quinazoline derivatives as DNA methyl transferase inhibitors" by Halby L, Arimondo P, Mai A, **Rotili D**.
- 7) Italian Granted Patent IT0001412189 entitled "Preparation of 7-nitro-2,1,3-benzoxadiazole derivatives for antitumor therapy" by Caccuri AM, De Luca A, Federici L, Mai A, **Rotili D**.

Conferences

Invited Lectures

- 1) October 12th, 2012, National Congress of the German Pharmaceutical Society (DPHG-Jahrestagung 2012, Greifswald, Germania, 11-13 October 2012) title: "Development of lysine mimic quinazoline-based selective inhibitors of a Jmj-C histone demethylase family".
- 2) September 28th, 2011, XIX Mendeleev Congress on General and Applied Chemistry (Volgograd, Russia, 25-30 September 2011) title: "A small molecule probe approach for studying 2-oxoglutarate dependent oxygenases".
- 3) September 13th, 2010, XX Meeting of the Medicinal Chemistry Division of the Italian Chemical Society (Abano Terme, 12-16 September 2010) title of the main lecture: "A chemical probe for 2-oxoglutarate oxygenases".

Oral Communications

- 1) July 19th, 2012, XXI Meeting of the Medicinal Chemistry Division of the Italian Chemical Society (Palermo, 17-20 July 2012) title: "Design, synthesis and biological evaluation of small molecule modulators of histone methylation/demethylation".
- 2) September 18th, 2007, XVIII Meeting of the Medicinal Chemistry Division of the Italian Chemical Society (Chieti, 16-20 September 2007) title: "Novel sirtuins' inhibitors: potency and selectivity".

Honours and awards

- 1) 2011 Prize of the Italian Association of Pharmaceutical Companies Farmindustria for the Excellence in Medicinal Chemistry, reserved to scientists under 40 years old.
- 2) Prize "Sapienza Research 2011", reserved to scientists under 40 years old.

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV

Place and date

Rome, May 16th, 2025

Signature

A handwritten signature in black ink, appearing to read "Dante Rotili".