

Allegato B

FRANCESCO FIORENTINO

Curriculum Vitae

Place Grottaferrata (RM)

Date 13/08/2024

Part I – General Information

Full Name	Francesco Fiorentino
Date of Birth	
Place of Birth	
Citizenship	
Permanent Address	
Mobile Phone Number	
E-mail	
Spoken Languages	Italian, English

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,...)
University graduation	2016	Sapienza University of Rome	Integrated Master's Degree in Pharmaceutical Chemistry and Technology (Laurea Magistrale a Ciclo Unico in Chimica e Tecnologia Farmaceutiche). Final grade: 110/110 cum laude. Thesis Title: “Progettazione, sintesi e valutazione biologica di nuovi inibitori HAT”. Supervisor: Prof. Antonello Mai
PhD	2020	University of Oxford	Systems Approaches to Biomedical Science (EPSRC & MRC CDT) - Physical and Theoretical Chemistry. Sub-field: Biophysical Chemistry . Thesis Title: “Insights into the molecular mechanisms of ABC transporters and membrane insertases”. Supervisor: Prof. Dame Carol Robinson.
Licensure	2017	Sapienza University of Rome	License to Practice as a Pharmacist (Abilitazione alla Professione di Farmacista). Final grade: 350/350.

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
01/10/2020	31/05/2021	Department of Chemistry, University of Oxford	Postdoctoral Research Associate in Mass Spectrometry. Supervisor: Prof. Dame Carol Robinson. Topic: Investigation of the assembly, dynamics and regulation of membrane proteins through the integration of mass spectrometry-based techniques and biophysical approaches.
01/07/2021	30/09/2022	Department of Drug Chemistry and Technologies, Sapienza University of Rome	Postdoctoral Researcher (Assegno di ricerca di categoria B Tipologia II). Supervisor: Prof. Antonello Mai. Topic: Development of native mass spectrometry-based methodologies for studying interactions between epigenetic targets and the influence of small molecule modulators on protein interactions and activity.
01/10/2022	Present (End will be on 30/09/2024)	Department of Drug Chemistry and Technologies, Sapienza University of Rome	Marie Skłodowska-Curie Action Postdoctoral Fellow. Supervisor: Prof. Antonello Mai. Project “EpiPolyPharma”. Title: “Development of dual-targeting epigenetic modulators for polypharmacology-based cancer therapy”.

IIIB – Other Appointments (Undergraduate and Graduate Academic Experience)

Start	End	Institution	Position
06/07/2016	14/03/2016	Department of Drug Chemistry and Technologies, Sapienza University of Rome	Undergraduate Student. Supervisor: Prof. Antonello Mai.
16/06/2016	18/07/2016		Topic: Design, synthesis, and biological evaluation of new HAT inhibitors.
15/03/2016	15/06/2016	Structural Genomics Consortium, University of Oxford	Undergraduate Student. Supervisor: Prof. Panagis Filippakopoulos. Topic: Biophysical evaluation of new molecules as inhibitors of the BET (Bromodomain and extra-terminal domain) family of proteins.
17/04/2017	16/07/2017	Department of Chemistry, University of Oxford	PhD student (Rotation 1). Academic supervisor: Prof. Angela Russell. Industrial supervisor: Dr. Jacob Bush (GSK). Rotation Project Title: “Development of a synthetic pathway for a new chemical

17/07/2017	30/09/2020	Department of Chemistry, University of Oxford	tool to elucidate the mechanism of action of (-)-Indolactam V”. PhD student (Rotation 2 + PhD project). Academic supervisor: Prof. Dame Carol V. Robinson Industrial supervisors: Dr. Rachel Davis (UCB Pharma), Dr. Ildir Liko (OMass Therapeutics). Project and Thesis Title: “Insights into the molecular mechanisms of ABC transporters and membrane insertases”.
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Part IV – Teaching and tutoring experience

IVA – Collaboration in Teaching Courses

Year	Institution	Course
2017	Doctoral Training Centre, University of Oxford	Collaboration in the “Drug Discovery” course for first-year PhD students. Course holders: Prof. Paul Brennan and Prof. Garrett Morris.
2022-2024	Faculty of Pharmacy and Medicine, Sapienza University of Rome	Collaboration in carrying out the activities of the teaching laboratory for the course “Chemical-Pharmaceutical and Toxicological Analysis”, part of the Integrated Master’s Degree in Pharmacy. Course holder: Prof. Dante Rotili.

IVB – Course Examination Boards

Year	Institution	Course
2017	Doctoral Training Centre, University of Oxford	Presence in the Examination Board for the “Drug Discovery”. Course holders: Prof. Paul Brennan and Prof. Garrett Morris.
2021-2024	Faculty of Pharmacy and Medicine, Sapienza University of Rome	Presence in the Examination Board for the “Chemical-Pharmaceutical and Toxicological Analysis” course, part of the Integrated Master’s Degree in Pharmaceutical Chemistry and Technology (CTF). Course holder: Prof. Antonello Mai.
2022-2024	Faculty of Pharmacy and Medicine, Sapienza University of Rome	Presence in the Examination Board for the “Pharmaceutical and Toxicological Chemistry II” course, part of the Integrated Master’s Degree in Pharmacy. Course holder: Prof. Dante Rotili.

IVC – Supervision activities

Year	Institution	Course
2023-2024	Department of Drug Chemistry and Technologies, Sapienza University of Rome	Co-supervisor (Correlatore) for an Experimental Thesis for the Integrated Master’s Degree in Pharmacy. Supervisor: Prof. Dante Rotili. Candidate: Clarissa Tavani. Thesis title: “Sviluppo di inibitori peptidici della RNA metiltransferasi METTL3/METTL14”.

Provided hand-on training in protein expression and purification, HPLC, peptide design and purification, mass spectrometry experiments execution, data analysis and interpretation, and scientific writing.

IVD – Tutoring and training activities

Year	Institution	Course
2017 - 2018	Department of Chemistry, University of Oxford	Training of a final year student of the Integrated Master's Degree in Chemistry (MChem). Candidate: Anna C. Howes. Supervisor: Prof. Dame Carol Robinson. Provided hand-on training in protein expression and purification, biochemical and biophysical characterization, mass spectrometry experiments design and execution, data analysis and interpretation and scientific writing.
2018 - 2019	Department of Chemistry, University of Oxford	Training of a final year student of the Integrated Master's Degree in Chemistry (MChem). Candidate: Zoe Heighes. Supervisor: Prof. Dame Carol Robinson. Provided hand-on training in protein expression and purification, biochemical and biophysical characterization, mass spectrometry experiments design and execution, data analysis and interpretation and scientific writing.
2019 - 2021	Department of Chemistry, University of Oxford	Training of a PhD student in Physical Chemistry. Candidate: Angela Gehrckens. Supervisor: Prof. Justin Benesch. Introduced the student to hydrogen-deuterium exchange mass spectrometry for the evaluation of protein stability and conformational changes and helped with experiment design and data interpretation.
2021 - 2022	Department of Drug Chemistry and Technologies, Sapienza University of Rome	Training of two final year students of the Integrated Master's Degree in Pharmaceutical Chemistry and Technology. Candidates: Arianna Delli Carri and Giulia Cutrone. Supervisor: Prof. Dante Rotili. Provided hands-on training in the design and execution of mass spectrometry experiments, NMR data interpretation, HPLC analysis and purification, protein purification, data interpretation and scientific writing.
2021 - 2022	Department of Drug Chemistry and Technologies, Sapienza University of Rome	Training of three final year students of the Integrated Master's Degree in Pharmacy. Candidates: Antonio Passancantilli, Gaia Picozzi, Luigia Tarricone. Supervisor: Prof. Dante Rotili. Provided help and support for bibliographic search and scientific writing (tesi compilativa).
2022 - 2023	Department of Drug Chemistry and	Training of two final year student of the Integrated Master's Degree in Pharmaceutical Chemistry and

	Technologies, Sapienza University of Rome	Technology. Candidates: Chiara Maurizi and Matteo Cianfagna. Supervisor: Prof. Dante Rotili. Provided hands-on training in the design and execution of mass spectrometry experiments, HPLC analysis and purification, data interpretation and scientific writing.
2022 - today	Department of Drug Chemistry and Technologies, Sapienza University of Rome	Training of a PhD student in Pharmaceutical Sciences. Candidate: Emanuele Fabbri. Supervisor: Prof. Antonello Mai. Provided hands-on training in the design and execution of mass spectrometry experiments, HPLC analysis and purification, peptide design and purification, data interpretation.
2023 - today	Department of Drug Chemistry and Technologies, Sapienza University of Rome	Training of a final year student of the Integrated Master's Degree in Pharmaceutical Chemistry and Technology. Candidate: Ioan Alexandru Manea. Supervisor: Prof. Dante Rotili. Provided hands-on training in the design and execution of mass spectrometry experiments, HPLC analysis and purification, peptide synthesis and purification, data interpretation.

Part V - Society memberships, Awards, and Scholarships

VA – Society Memberships

Year	Title
2017 – present	Member of the Italian Chemical Society (SCI).
2020 – present	Member of the Italian Society of Biochemistry and Molecular Biology (SIB).

VB – Awards for scientific achievements

Year	Title
2021	SIB Medal 2021 (Medaglia SIB 2021). <i>Award presented by the Society of Biochemistry and Molecular Biology (SIB) to an under-35 researcher in recognition of relevant scientific contributions during their career.</i>

VC – Awards for poster/oral presentations at conferences

2018	Best Poster Award sponsored by "Chemistry, a European Journal" at the "22 nd International Mass Spectrometry Conference".
2020	Best Oral Communication Award at the conference "Massa 2020 VIP - Annual Congress of the Mass Spectrometry Division of the Italian Chemical Society".
2021	Best Oral Communication Award at the conference "2 nd Autumn Meeting for Young Chemists in Biomedical Sciences".

VD – Scholarships and Travel Grants

Year	Title
2016	COST Short Term Scientific Mission Scholarship to cover 3 months of research activities outside Italy. 15/03/2016 - 15/06/2016 , Oxford, UK.
2016	Fellowship from the Engineering and Physical Sciences Research Council UK (covers salary, College and University fees related to the PhD programme). 09/10/2016 - 30/09/2020 , Oxford, UK
2018	"Nico Nibbering Travel Award" for participation in the <i>22nd International Mass Spectrometry Conference</i> , 26/08/2018 - 31/08/2018 , Florence, Italy
2019	FEMS Early Career Scientist Meeting Grant for participation in the <i>6th Molecular Microbiology Meeting</i> , 17/06/2019 - 18/06/2019 , Newcastle, UK.
2020	Travel Grant provided by the Department of Chemistry, University of Oxford for participation in the <i>64th Annual Meeting of the Biophysical Society</i> , 15/02/2020 - 19/02/2020 , San Diego, USA.
2020	Kellogg College Travel Fund Grant for attendance at the <i>64th Annual Meeting of the Biophysical Society</i> , 15/02/2020 - 19/02/2020 , San Diego, USA.
2022	"Italfarmaco" scholarship for participation in the <i>27th National Meeting in Medicinal Chemistry (NMMC27)</i> , 11/09/2022 - 14/09/2022 , Bari, Italy.

Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

Year	Title	Program	Grant value
2022	Development of novel protein-protein interaction disruptors of the LPS transport protein LptA/H	Sapienza Avvio alla Ricerca – Tipo II Call 2022 (PI)	
2022	Development of dual-targeting epigenetic modulators for polypharmacology-based cancer therapy – “EpiPolyPharma”	Marie Skłodowska-Curie Postdoctoral Fellowship – Horizon Europe (PI)	
2022	Native MS-based analysis of dual-targeting epigenetic modulators for polypharmacology-based cancer therapy – “NativePolyPharma”	Sapienza Incentivisation of PI ERC – MSCA (PI)	
2024	Targeting cancer through hybrid inhibitors of the KDM5 and LSD1 enzymes – “TACKLE”	Sapienza Fellowship “Add SAPIExcellence 2024” (PI)	

Part VII – Research Activities

Keywords	Brief Description
Mass spectrometry	A considerable portion of my research has been directed towards understanding the function and modulation of protein complexes. I investigated protein-protein and protein-ligand interactions using a range of mass spectrometry (MS)-based techniques, including native MS, hydrogen-deuterium exchange MS, proteomics, and lipidomics. To this end, I have been trained in cloning, expressing, and purifying soluble and membrane proteins, and functionally characterising them using various biochemical techniques. Given the nature of the projects I have been pursuing, I have gained experience with additional techniques such as HPLC-MS, ion mobility-MS, surface plasmon resonance, and functional assays to track the activity of the proteins
Protein interactions	
Drug discovery	
Lipopolysaccharide transport	
Epigenetics	

Epitranscriptomics

of interest. During the year of my PhD studies and later during my postdoc in both Oxford and Rome, I focused on studying the lipopolysaccharide transport system, investigating its various components. In fact, one of the main projects of my PhD involved analysing the interactions between the LptDE heterodimer and different ligands, such as its own substrate and a natural antimicrobial peptide, thanatin. Additionally, I investigated the oligomerisation of the bridge protein LptA/H and the influence of different small molecules on its stability. I am also currently concluding a project integrating native MS and cryo-EM about the internal portion of the protein complex, namely the LptB₂FGC transporter. I have also contributed to the development of innovative detergents for the purification of membrane proteins that enable higher yields and an easier analysis *via* native MS.

While working as a postdoctoral researcher at Sapienza University, I combined native MS with biochemical and biophysical methods to study the functions and regulation of epigenetic proteins. Specifically, I focused on investigating the function of histone acetyltransferase KAT8, lysine demethylases LSD1 and LSD2, and protein arginine methyltransferase PRMT5. In addition, I conducted research on the impact of various small molecules on the activities of carbonic anhydrases. More recently, I have been carrying out a project on the epitranscriptomic “writer” METTL3/14, a protein complex possessing RNA methyltransferase activity. Specifically, I am now designing innovative peptides that may disrupt protein-protein interactions within this complex. This project encompasses several components, such as the investigation of protein structure, the design and synthesis of peptides, the creation of native MS techniques to investigate protein-peptide interactions, and the biochemical assessment of protein function.

Part VIII – Summary of Scientific Achievements

Product type	Nr	Database	Start	End
Papers [international]	37	Scopus: https://www.scopus.com/authid/detail.uri?authorId=57202026847	2018	2024

- 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**;84(14):2682-2697.e6. doi: 10.1016/j.molcel.2024.06.016
- Appetecchia F*, Fabbri E*, **Fiorentino F***, Consalvi S, Biava M, Poce G, Rotili D. Transmission-Blocking Strategies for Malaria Eradication: Recent Advances in Small-Molecule Drug Development. *Pharmaceuticals*. **2024**;17(7):962. doi: 10.3390/ph17070962 [**Co-first authors*].
- Fiorentino F**, Fabbri E, Raucci A, Noce B, Fioravanti R, Valente S, Paolini C, De Maria R, Steinkühler C, Gallinari P, Rotili D, Mai A. Uracil- and Pyridine-Containing HDAC Inhibitors Displayed Cytotoxicity in Colorectal and Glioblastoma Cancer Stem Cells. *ChemMedChem*. **2024**; e202300655. doi: 10.1002/cmdc.202300655
- Urner LH, **Fiorentino F**, Shutin S, Sauer, JB, Agasid MT, El-Baba TJ, Bolla JR, Stansfeld PJ, Robinson CV. Detergents with scalable properties identify non-canonical lipopolysaccharide binding to bacterial inner membrane proteins. *J Am Chem Soc*. **2024**;146(16):11025–30. doi: 10.1021/jacs.3c14358
- Garbo S, D'Andrea D, Colantoni A, **Fiorentino F**, Mai A, Ramos A, Tartaglia GG, Tancredi A, Tripodi M, Battistelli C. m6A modification inhibits miRNAs' intracellular function, favoring their extracellular export for intercellular communication. *Cell Rep*. **2024**;43(6):114369. 10.1016/j.celrep.2024.114369
- Maure A, Lawarée E, **Fiorentino F**, Pawlik A, Gona S, Giraud-Gatineau A, Eldridge MJG, Danckaert A, Hardy D, Frigui W, Keck C, Gutierrez C, Neyrolles O, Aulner N, Mai A, Hamon M, Barreiro LB, Brodin P, Brosch R, Rotili D, Tailleux L. A host-directed oxadiazole compound potentiates antituberculosis

treatment via zinc poisoning in human macrophages and in a mouse model of infection. *PLoS Biol.* **2024**;22(4):e3002259. doi: 10.1371/journal.pbio.3002259

7. Golovina A, Proia E, **Fiorentino F**, Yunin M, Kasatkina M, Zigangirova N, Soloveva A, Sysolyatina E, Ermolaeva S, Novikov R, Silonov S, Pushkin S, Mladenović M, Isakova J, Belik A, Nawrozkij M, Rotili D, Ragno R, Ivanov R. (Heteroaryl)methylbenzoic Acids as a New Class of Bacterial Cystathionine γ -Lyase Inhibitors: Synthesis, Biological Evaluation, and Molecular Modeling. *ACS Infect Dis.* **2024** Jun 14;10(6):2127-2150. doi: 10.1021/acsinfecdis.4c00136
8. Pannek M, Alhalabi Z, Tomaselli D, Menna M, **Fiorentino F**, Robaa D, Weyand M, Puhlmann M, Tomassi S, Barreca F, Tafani M, Zaganjor E, Haigis MC, Sippl W, Rotili D, Mai A, Steegborn C. Specific Inhibitors of Mitochondrial Deacylase Sirtuin 4 Endowed with Cellular Activity. *J Med Chem.* **2024**;67(3):1843-1860. doi: 10.1021/acs.jmedchem.3c01496
9. Scribani Rossi C, Eckardt K, Scarchilli E, Angeli S, Price-Whelan A, Di Matteo A, Chevreuil M, Raynal B, Arcovito A, Giacon N, **Fiorentino F**, Rotili D, Mai A, Espinosa-Urgel M, Cutruzzolà F, Dietrich LEP, Paone A, Paiardini A, Rinaldo S. Molecular insights into RmcA-mediated c-di-GMP consumption: Linking redox potential to biofilm morphogenesis in *Pseudomonas aeruginosa*. *Microbiol Res.* **2023**;277:127498. doi: 10.1016/j.micres.2023.127498
10. **Fiorentino F**, Mai A, Rotili D. The role of structural biology in the design of sirtuin activators. *Curr Opin Struct Biol.* **2023**;82:102666. doi: 10.1016/j.sbi.2023.102666
11. Urner LH, Junge F, **Fiorentino F**, El-Baba TJ, Shutin D, Nölte G, Haag R, Robinson CV. Rationalizing the Optimization of Detergents for Membrane Protein Purification. *Chem Eur J.* **2023** ;29(30):e202300159. doi: 10.1002/chem.202300159
12. **Fiorentino F**, Sementilli S, Menna M, Turrise 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**;66(10):6591-6616. doi: 10.1021/acs.jmedchem.2c01937
13. **Fiorentino F**,[†] Rotili D,[†] Mai A. Native mass spectrometry-directed drug discovery: Recent advances in investigating protein function and modulation. *Drug Discov Today.* **2023**;28(5):103548. doi: 10.1016/j.drudis.2023.103548 [[†] Corresponding authors].
14. Fabbri E*, **Fiorentino F***, Carafa V, Altucci L, Mai A, Rotili D. Emerging Roles of SIRT5 in Metabolism, Cancer, and SARS-CoV-2 Infection. *Cells.* **2023** Mar 9;12(6):852. doi: 10.3390/cells12060852 [^{*}Co-first authors].
15. **Fiorentino F***, Menna M*, Rotili D, Valente S, Mai A. METTL3 from Target Validation to the First Small-Molecule Inhibitors: A Medicinal Chemistry Journey. *J Med Chem.* **2023**;66(3):1654-1677. doi: 10.1021/acs.jmedchem.2c01601 [^{*}Co-first authors].
16. 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**;66(1):934-950. doi: 10.1021/acs.jmedchem.2c01789
17. Fioravanti R, Proia E, Tyurenkov IN, Kurkin DV, Bakulin DA, Kovalev NS, Sheikin DS, Kirillov IA, Nawrozkij MB, Vernigora AA, Brunilina LL, **Fiorentino F**, Mladenović M, Rotili D, Ragno R. Pyrimidine thioethers: A novel class of antidepressant agents, endowed with anxiolytic, performance enhancing and nootropic activity. *Eur J Med Chem.* **2023**;245(Pt 2):114902. doi: 10.1016/j.ejmech.2022.114902
18. **Fiorentino F***, Nocentini A*, Rotili D, Supuran CT, Mai A. Antihistamines, phenothiazine-based antipsychotics, and tricyclic antidepressants potently activate pharmacologically relevant human carbonic anhydrase isoforms II and VII. *J Enzyme Inhib Med Chem.* **2023**;38(1):2188147. doi: 10.1080/14756366.2023.2188147 [^{*}Co-first authors]
19. Orekhova A, De Angelis M, Cacciotti A, Reverberi M, Rotili D, Giorgi A, Protto V, Bonincontro G, **Fiorentino F**, Zgoda V, Mai A, Palamara AT, Simonetti G. Modulation of Virulence-Associated Traits

- in *Aspergillus fumigatus* by BET Inhibitor JQ1. *Microorganisms*. **2022**;10(11):2292. doi: 10.3390/microorganisms10112292
20. **Fiorentino F***, Castiello C*, Mai A, Rotili D. Therapeutic Potential and Activity Modulation of the Protein Lysine Deacylase Sirtuin 5. *J Med Chem*. **2022**;65(14):9580-9606. doi: 10.1021/acs.jmedchem.2c00687 [**Co-first authors*].
 21. **Fiorentino F**, Mautone N, Menna M, D'Acunzo F, Mai A, Rotili D. Sirtuin modulators: past, present, and future perspectives. *Future Med Chem*. **2022**;14(12):915-939. doi: 10.4155/fmc-2022-0031
 22. Menna M*, **Fiorentino F***, Marrocco B, Lucidi A, Tomassi S, Cilli D, Romanenghi M, Cassandri M, Pomella S, Pezzella M, Del Bufalo D, Zeya Ansari MS, Tomašević N, Mladenović M, Viviano M, Sbardella G, Rota R, Trisciuglio D, Minucci S, Mattevi A, Rotili D, Mai A. Novel Non-Covalent LSD1 Inhibitors Endowed with Anticancer Effects in Leukemia and Solid Tumor Cellular Models. *Eur J Med Chem*. **2022**;237:114410. doi: 10.1016/j.ejmech.2022.114410 [**Co-first authors*].
 23. 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**;50(5):2566-2586. doi: 10.1093/nar/gkac081
 24. Taurone S, De Ponte C, Rotili D, De Santis E, Mai A, **Fiorentino F**, Scarpa S, Artico M, Micera A. Biochemical functions and clinical characterizations of the Sirtuins in diabetes-induced retinal pathologies. *Int J Mol Sci*. **2022**;23(7):4048. doi: 10.3390/ijms23074048
 25. Urner LH, Mohammadifar E, Ludwig K, Shutin D, **Fiorentino F**, Liko I, Almeida FG, Kutifa D, Haag R, Robinson CV. An anionic dendritic polyglycerol for protein purification and delipidation. *ACS Appl Polym Mater*. **2021**;3(11):5903–5911. doi: 10.1021/acsapm.1c01127
 26. **Fiorentino F**, De Angelis M, Menna M, Rovere A, Caccuri AM, D'Acunzo F, Palamara AT, Nencioni L, Rotili D, Mai A. Anti-influenza A virus activity and structure-activity relationship of a series of nitrobenzoxadiazole derivatives. *J. Enzyme Inhib Med Chem*. **2021**;36(1):2128-2138. doi: 10.1080/14756366.2021.1982932
 27. **Fiorentino F**, Rotili D, Mai A, Bolla JR, Robinson CV. Mass spectrometry enables the discovery of inhibitors of an LPS transport assembly via disruption of protein-protein interactions. *Chem Commun*. **2021**;57(82):10747-10750. doi: 10.1039/d1cc04186j
 28. **Fiorentino F**, Mai A, Rotili D. Emerging Therapeutic Potential of SIRT6 Modulators. *J Med Chem*. **2021**;64(14):9732-9758. doi: 10.1021/acs.jmedchem.1c00601
 29. Quetschlich D, Esser TK, Newport TD, **Fiorentino F**, Shutin D, Chen S, Davis R, Lovera S, Liko I, Stansfeld PJ, Robinson CV. NaViA: A Program for the Visual Analysis of Complex Mass Spectra. *Bioinformatics*, **2021**;37(24):4876-4878. doi: 10.1093/bioinformatics/btab436
 30. Bolla JR, **Fiorentino F**, Robinson CV. Mass Spectrometry informs the structure and dynamics of membrane proteins involved in lipid and drug transport. *Curr Opin Struct Biol*. **2021**;70:53-60. doi: 10.1016/j.sbi.2021.03.014
 31. **Fiorentino F***, Carafa V, * Favale G, Altucci L, Mai A, Rotili D. The Two-Faced Role of SIRT6 in Cancer. *Cancers*, **2021**;13(5):1156. doi: 10.3390/cancers13051156 [**Co-first authors*].
 32. **Fiorentino F**; Sauer JB; Qiu X; Corey RA; Cassidy CK; Mynors-Wallis B; Mehmood S; Bolla JR; Stansfeld PJ; Robinson CV. Dynamics of an LPS translocon induced by substrate and an antimicrobial peptide. *Nat Chem Biol*. **2021**;17(2):187-195. doi: 10.1038/s41589-020-00694-2
 33. McDowell MA, Heimes M, **Fiorentino F**, Mehmood S, Farkas Á, Coy-Vergara J, Wu D, Bolla JR, Schmid V, Heinze R, Wild K, Flemming D, Pfeffer S, Schwappach B, Robinson CV, Sinning I. Structural basis of tail-anchored membrane protein biogenesis by the GET insertase complex. *Mol Cell* **2020**;80(1):72-86. doi: 10.1016/j.molcel.2020.08.012
 34. **Fiorentino F**, Mai A, Rotili D. Lysine acetyltransferase inhibitors from natural sources. *Front Pharmacol*. **2020**;11:1243. doi: 10.3389/fphar.2020.01243

35. Bolla JR, Howes AC, **Fiorentino F**, Robinson CV. Assembly and regulation of the chlorhexidine-specific efflux pump AceI. *Proc Nat Acad Sci U S A* **2020**;117(29):17011-17018. doi: 10.1073/pnas.2003271117
36. **Fiorentino F**, Bolla JR, Mehmood S, Robinson CV. The different effects of substrates and nucleotides on the complex formation of ABC transporters. *Structure* **2019**;27(4):651-659. doi: 10.1016/j.str.2019.01.010
37. **Fiorentino F**, Mai A, Rotili D. Lysine acetyltransferase inhibitors: structure-activity relationships and potential therapeutic implications. *Future Med. Chem.* **2018**;10(9):1067-1091. doi: 10.4155/fmc-2017-0244

Editorial	1	Scopus: https://www.scopus.com/authid/detail.uri?authorId=57202026847	2023	2023
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1. **Fiorentino F**, Carta F, Rotili D, Mai A, Supuran CT. State of the art of carbonic anhydrase activators. *Future Med Chem.* **2023**;15(22):2025-2028. doi: 10.4155/fmc-2023-0193

Book chapters [scientific]	2	Scopus: https://www.scopus.com/authid/detail.uri?authorId=57202026847	2020	2021
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1. **Fiorentino F**, Bolla JR. Mass Spectrometry Analysis of Dynamics and Interactions of the LPS Translocon LptDE. In *Methods in Molecular Biology*, Sperandio P. (Ed.) **2022**;2548:109-128. doi: 10.1007/978-1-0716-2581-1_8
2. **Fiorentino F**, Mai A, Rotili D. HAT inhibitors in cancer therapy. In *Histone Modifications in Therapy*, Castelo-Branco P.; Jeronimo C. (Eds.) **2020**;51-80. doi: 10.1016/B978-0-12-816422-8.00003-9

Patents	1	Google Patents: https://patents.google.com/patent/WO2022238703A1	2022	2022
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1. Urner LH, Pagel K, Haag R, Shutin S, Agasid M, **Fiorentino F**, Robinson CV. Detergents and Methods. **2022**; WO2022238703 (A1).

Total Impact factor	271.56
Average Impact factor per Product	7.34
Total Citations	487
Average Citations per Product	13.2
Hirsch (H) index	13
Normalized H index*	2.17

*H index divided by the academic seniority.

Part IX– Selected Publications

List of the publications selected for the evaluation. For each publication report title, authors, reference data, journal IF (if applicable), citations, press/media release (if any).

1. **Title:** The different effects of substrates and nucleotides on the complex formation of ABC

transporters.

Authors: Fiorentino, F.; Bolla, J. R.; Mehmood, S.; Robinson C.V.

Year: 2019

Reference data: *Structure*, 27(4):651-659, doi: 10.1016/j.str.2019.01.010

Journal IF (2019): 4.862

Number of citations: 19

2. **Title:** Assembly and regulation of the chlorhexidine-specific efflux pump AceI.
Authors: Bolla, J. R.; Howes, A. C.; Fiorentino, F.; Robinson C.V.
Year: 2020
Reference data: *Proc. Nat. Acad. Sci. U.S.A.*, 117(29):17011–17018, doi: 10.1073/pnas.2003271117
Journal IF (2020): 11.205
Number of citations: 33
Associated data available at: https://figshare.com/articles/_/12253085
3. **Title:** Structural Basis of Tail-Anchored Membrane Protein Biogenesis by the GET Insertase Complex.
Authors: McDowell, M.A.; Heimes, M.; Fiorentino, F.; Mehmood, S.; Farkas, Á.; Coy-Vergara, J.; Wu, D.; Bolla, J.R.; Schmid, V.; Heinze, R.; Wild, K.; Flemming, D.; Pfeffer, S.; Schwappach, B.; Robinson, C.V.; Sinning, I.
Year: 2020
Reference data: *Mol. Cell*, 80(1):72–86, doi: 10.1016/j.molcel.2020.08.012
Journal IF (2020): 17.970
Number of citations: 63
Associated data available at: <https://data.mendeley.com/datasets/jd8x9xxzwn/1>
<https://www.rcsb.org/structure/6SO5>
<https://pdj.org/emnavi/quick.php?id=10266>
<https://pdj.org/emnavi/quick.php?id=11607>
4. **Title:** Dynamics of an LPS translocon induced by substrate and an antimicrobial peptide.
Authors: Fiorentino, F.; Sauer, J. B.; Qiu, X.; Corey, R. A.; Cassidy, C. K.; Mynors-Wallis, B.; Mehmood, S.; Bolla, J. R.; Stansfeld, P. J.; Robinson C. V.
Year: 2021
Reference data: *Nat. Chem. Biol.*, 17(2):187-195, doi: 10.1038/s41589-020-00694-2
Journal IF (2021): 16.284
Number of citations: 44
Associated data available at: <https://www.ebi.ac.uk/pride/archive/projects/PXD021743>
5. **Title:** Mass spectrometry enables the discovery of inhibitors of an LPS transport assembly via disruption of protein-protein interactions.
Authors: Fiorentino, F.; Rotili, D; Mai, A.; Bolla, J. R.; Robinson C. V.
Year: 2021
Reference data: *Chem. Commun.*, 57(82):10747-10750, doi: 10.1039/D1CC04186J
Journal IF (2021): 6.065
Number of citations: 9
6. **Title:** Anti-influenza A virus activity and structure–activity relationship of a series of nitrobenzoxadiazole derivatives.
Authors: Fiorentino, F.; De Angelis, M.; Menna, M.; Rovere, A.; Caccuri, A.M.; D’Acunzo, F.; Palamara, A. T.; Nencioni, L.; Rotili, D; Mai, A.
Year: 2021
Reference data: *J. Enzyme Inhib. Med. Chem.*, 36(1):2128-2138, doi: 10.1080/14756366.2021.1982932
Journal IF (2021): 5.756
Number of citations: 5

7. **Title:** Novel Non-Covalent LSD1 Inhibitors Endowed with Anticancer Effects in Leukemia and Solid Tumor Cellular Models.
Authors: Menna, M.;* Fiorentino, F.;* Marrocco, B.; Lucidi, A.; Tomassi, S.; Cilli, D.; Romanenghi, M.; Cassandri, M.; Pomella, S.; Pezzella, M.; Del Bufalo, D.; Zeya Ansari, M. S.; Tomašević, N.; Mladenović, M.; Viviano, M.; Sbardella, G.; Rota, R.; Trisciuglio, D.; Minucci, S.; Mattevi, A.; Rotili, D.; Mai, A. [*Co-first authors]
Year: 2022
Reference data: *Eur. J. Med. Chem.*, 237:114410, doi: 10.1016/j.ejmech.2022.114410
Journal IF (2022): 6.7
Number of citations: 15
Associated data available at: <https://www.rcsb.org/structure/6TUY>

8. **Title:** Antihistamines, phenothiazine-based antipsychotics, and tricyclic antidepressants potentially activate pharmacologically relevant human carbonic anhydrase isoforms II and VII.
Authors: Fiorentino, F.;* Nocentini, A.;* Rotili, D.; Supuran, C. T.; Mai, A. [*Co-first authors]
Year: 2023
Reference data: *J. Enzyme Inhib. Med. Chem.*, 38(1):2188147, doi: 10.1080/14756366.2023.2188147
Journal IF (2023): 5.6
Number of citations: 3

9. **Title:** Rationalizing the Optimization of Detergents for Membrane Protein Purification.
Authors: Urner, L. H.; Junge, F.; Fiorentino, F.; El-Baba, T. J., Shutin, D.; Nölte, G.; Haag, R.; Robinson CV.
Year: 2023
Reference data: *Chem. Eur. J.*, 29(30): e202300159. doi: 10.1002/chem.202300159
Journal IF (2023): 3.9
Number of citations: 10

10. **Title:** First-in-class selective inhibitors of the lysine acetyltransferase KAT8.
Authors: Fiorentino, F.; Sementilli, S.; Menna, M.; Turrise, F.; Tomassi, S.; Pellegrini, F. R.; Iuzzolino, A.; D'Acunzo, F.; Feoli, A.; Wapenaar, H.; Taraglio, S.; Frascchetti, C.; Del Bufalo, D.; Sbardella, G.; Dekker, F. J.; Paiardini, A.; Trisciuglio, D.; Mai, A.; Rotili, D.
Year: 2023
Reference data: *J. Med. Chem.*, 66(10):6591-6616. doi: 10.1021/acs.jmedchem.2c01937.
Journal IF (2023): 6.8
Number of citations: 3

11. **Title:** Detergents with Scalable Properties Identify Noncanonical Lipopolysaccharide Binding to Bacterial Inner Membrane Proteins.
Authors: Urner, L. H.; Fiorentino, F.; Shutin, D.; Sauer, J. B.; Agasid, M. T.; El-Baba, T. J.; Bolla, J. R.; Stansfeld, P. J.; Robinson, C. V.
Year: 2024
Reference data: *J. Am. Chem. Soc.*, 146(16):11025-11030. doi: 10.1021/jacs.3c14358
Journal IF (2023): 14.4
Number of citations: 0

12. **Title:** Structure-based mechanism of riboregulation of the metabolic enzyme SHMT1.
Authors: Spizzichino, S.; Di Fonzo, F.; Marabelli, C.; Tramonti, A.; Chaves-Sanjuan, A.; Parroni, A.; Boumis, G.; Liberati, F. R.; Paone, A.; Montemiglio, L. C.; Ardini, M.; Jakobi, A. J.; Bharadwaj, A.; Swuec, P.; Tartaglia, G. G.; Paiardini, A.; Contestabile, R.; Mai, A.; Rotili, D.; Fiorentino, F.; Macone, A.; Giorgi, A.; Tria, G.; Rinaldo, S.; Bolognesi, M.; Giardina, G.; Cutruzzolà, F.
Year: 2024
Reference data: *Mol. Cell*, 84(14):2682-2697. doi: 10.1016/j.molcel.2024.06.016
Journal IF (2023): 14.5
Number of citations: 0

Part X - Invited seminars and lectures

Date	Title	Meeting	Location
2021	Mass spectrometry-driven drug discovery: investigating protein function and modulation.	General meeting of the members of the Italian Society of Biochemistry and Molecular Biology (SIB)	Online
2023	Mass spectrometry meets structural biology: unravelling protein function and modulation.	"Modern Drug Discovery" Lecture Series	Department of Chemistry and Chemical Biology, Technische Universität Dortmund (TU Dortmund University). Dortmund, Germany
2023	An overview of the intact protein analysis approach with the Orbitrap UHMR Technology.	Workshop "Live from the Lab" (Thermo Fisher)	Department of Environmental Biology, Sapienza University of Rome. Rome, Italy.
2023	Mass spectrometry meets structural biology: Analysis of proteins and nucleic acids in the gas phase.	Workshop Project Biodiversi	Institute of Structure of Matter (CNR). Montelibretti (RM), Italy.
2024	Multitarget-directed ligands: a new avenue in drug discovery.	Workshop "3D high content imaging for the validation of new anti-cancer molecules"	Istituto di Biologia e Patologia Molecolari (IBPM, CNR). Rome, Italy

Part XI – Oral presentations at conferences

Date	Title	Conference	Location
2019	The different effects of substrates and nucleotides on the complex formation of ABC transporters.	Celebration of Native Mass Spectrometry Conference	Oxford, United Kingdom
2020	Investigating the conformational dynamics of the outer membrane LPS translocon LptDE.	64 th Annual Meeting of the Biophysical Society	San Diego, CA, USA
2020	Hydrogen-Deuterium exchange MS reveals the conformational dynamics of lipopolysaccharide outer membrane insertase LptDE.	68 th American Society for Mass Spectrometry Conference	Online
2020	An integrated MS approach reveals the conformational dynamics of lipopolysaccharide outer membrane insertase LptDE.	Massa 2020 VIP - Annual Congress of the Mass Spectrometry Division of the Italian Chemical Society	Online

2020	Concerted dynamics of an LPS translocon in the presence of substrate and an antimicrobial peptide.	UCB Pharma PhD Day 2020	Online
2021	Drug discovery meets native mass spectrometry: unravelling the modulation of LPS transport proteins.	2 nd Autumn Meeting for Young Chemists in Biomedical Sciences (AMYC-BIOMED)	Online
2021	Native mass spectrometry-directed identification of novel disruptors of the LPS transport system.	Merck Young Chemists' Symposium 2021	Rimini, Italy
2022	First-in-class selective inhibitors of the Histone Acetyltransferase KAT8.	27 th National Meeting in Medicinal Chemistry (NMMC27)	Bari, Italy
2024	Simultaneous targeting of LSD1 and PRMT5 through chimeric inhibitors as a novel therapeutic approach against leukemia.	48 th FEBS Congress	Milan, Italy

Part XII – Poster presentations at conferences

Date	Title	Conference	Location
2018	The influence of substrates and nucleotides on complex formation in ABC transporters - insights from mass spectrometry	22 nd International Mass Spectrometry Conference	Florence, Italy
2018	The influence of substrates and nucleotides on complex formation in ABC transporters - insights from mass spectrometry.	UCB Pharma PhD Day 2018	London, United Kingdom
2019	The different effects of substrates and nucleotides on the complex formation of ABC transporters.	6 th Molecular Microbiology Meeting	Newcastle, United Kingdom
2019	Investigating the conformational dynamics of the outer membrane LPS translocon LptDE.	UCB Pharma PhD Day 2019	London, United Kingdom
2023	First-in-class dual-targeting LSD1-PRMT5 inhibitors for polypharmacology-based leukemia therapy.	Gordon Research Conference "Chromatin Modifications in Health and Disease"	Smithfield, RI, USA

Part XIII – Management or participation in editorial committees of international peer-reviewed journals

Date	Journal	Role
27/03/2023 - today	Frontiers in Pharmacology	Review Editor

28/06/2023 - today	Frontiers in Chemistry	Review Editor
25/06/2024 - today	Pharmaceuticals	Guest Editor

Part XIV – Application for Abilitazione Scientifica Nazionale (waiting for outcome)

Date	Sector (Settore Concorsuale)	Level (Fascia)
03/07/2024	05/E1 - BIOCHIMICA GENERALE	Seconda Fascia
02/07/2024	03/D1 - CHIMICA E TECNOLOGIE FARMACEUTICHE, TOSSICOLOGICHE E NUTRACEUTICO-ALIMENTARI	Seconda Fascia

Part XV – Science communication activities

Over the past two years, I have been involved in science communication and outreach activities consisting of full-day visits at local middle schools (January 2023 and January 2024) and hands-on laboratory classes for middle and high school students (March 2023 and March 2024). The aim of these activities is to convey the importance of science and chemistry in everyday life and emphasize the necessity of fundamental research as a crucial measure for the improvement of human wellbeing. Overall, the target audience of these outreach and communication activities was middle and high school students as well as their teachers. These activities were carried out as part of Sapienza University Third Mission Project n. TM12117D233B6D11 (Responsible Prof. Patrizia Campolongo).

Finally, I will take part to the European Researchers' Night on the 27th and 28th September 2024 to share the aims and results of the research carried out over the MSCA Postdoctoral Fellowship to the general public and I will also be involved in practical science activities aimed at primary and middle-school kids.

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali"

Place and date

Grottaferrata, 13/08/2024

Signature




Francesco
Fiorentino
13.08.2024
17:56:10
GMT+02:00