PROCEDURA VALUTATIVA PER LA COPERTURA DI N. 1 POSTO DI PROFESSORE UNIVERSITARIO DI PRIMA FASCIA PER IL SETTORE CONCORSUALE 05/E2 – SETTORE SCIENTIFICO DISCIPLINARE BIO/11 PRESSO IL DIPARTIMENTO DI SCIENZE BIOCHIMICHE "A. ROSSI FANELLI" – FACOLTÀ DI FARMACIA E MEDICINA – CODICE CONCORSO 2021POR060

Decreto Rettore Università di Roma "La Sapienza" n. 3101/2021 del 24.11.2021

Candidate: **ROBERTO CONTESTABILE**

CURRICULUM VITAE

Lanuvio (Rome), November 29th, 2021

Part I – General Information

Full Name	Roberto Contestabile
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Scopus	Author ID 6603347341

Part II – Education

Type	Year	Institution	Notes (Degree, Experience)
University graduation	1992	Department of Biochemical Sciences, Sapienza University of Rome.	*Master's degree in Biological Sciences* (110/110 cum laude). Thesis title "Relazioni struttura-funzione nella serina idrossimetiltransferasi". Tutor Prof. Francesco Bossa.
Post-graduate studies	1993	Department of Biochemical Sciences, Sapienza University of Rome.	*Annual post-graduation training in Biological Chemistry and Molecular Biology*. Tutors Prof. Francesco Bossa and Prof. Mara Costa.
Ph.D.	1997	School of Biosciences, University of Wales, Cardiff, U.K.	*Ph.D. degree in Biochemistry*, (recognized as equivalent to the Italian doctorate in Biochemistry by ministerial decree). Thesis title "Studies on aspartate aminotransferase

			and glutamate-1-semialdehyde aminomutase". Supervisor Prof. Robert A. John

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
2010	present	Department of Biochemical Sciences, Faculty of Pharmacy and Medicine, Sapienza University of Rome	*Associate Professor (professore di II fascia) of Biochemistry* (S.S.D. BIO/10)
2021	2030	Ministero dell'Università e della Ricerca (MUR)	*National Scientific Qualification (ASN, Abilitazione Scientifica Nazionale)* as Full Professor (Professore Ordinario - I fascia) of Molecular Biology. Settore Concorsuale 05/E2 – S.S.D. BIO/11 Biologia Molecolare. Expiry date 12/05/2030.
2017	2026	Ministero dell'Istruzione dell'Università e della Ricerca (MIUR)	*National Scientific Qualification (ASN, Abilitazione Scientifica Nazionale)* as Full Professor (Professore Ordinario - I fascia) of General Biochemistry. Settore Concorsuale 05/E1 – S.S.D. BIO/10 Biochimica generale. Expiry date 31/03/2026.
2020	present	Istituto di Ricerca sugli Ecosistemi Terrestri (IRET) – National Research Council (Consiglio Nazionale delle Ricerche)	*Associate researcher* – "Associato con Incarico di Collaborazione" - as participant to the bilateral agreement CNR–PAN (Polish Academy of Sciences) entitled "Structural and functional characterization of serine hydroxymethyl transferase isoforms from *Arabidopsis thaliana*". (Project SAC.AD002.039 / 2020-2021). P.I. Dr. Maria Isabel Nogués.
2018	present	Istituto di Biologia e Patologia Molecolari (IBPM) – National Research Council (Consiglio Nazionale delle Ricerche)	*Associate researcher* – "Associato con Incarico di Collaborazione" - as participant to two bilateral agreements CNR–RFBR (Russian Foundation for Basic Research) entitled "Molecular characterization of enzymes involved in vitamin B_1- and B_6-dependent epilepsies" (Project SAC.AD002.020.017 - 2018-2020) and "Molecular basis of rare neurological disorders caused by

			mutations in pyridoxal-5'-phosphate- and thiamine-diphosphate-binding proteins." (Project B85F20002990005 - 2021-2023). P.I. Dr. Angela Tramonti.
2000	2010	Department of Biochemical Sciences, Faculty of Mathematical, Physical and Natural Sciences, Sapienza University of Rome	*Assistant Professor in Biochemistry* (Ricercatore a tempo indeterminato), S.S.D. BIO/10
1999	2000	Italian Pasteur Institute - "Cenci Bolognetti" Foundation	*Annual Research Fellowship* (12 months) for young researchers who carried out research activity abroad for at least 3 years. Project title "La glutammato-1-semialdeide aminomutasi: un potenziale bersaglio di sostanze ad azione antibatterica".
1998	1999	Department of Biochemical Sciences, Sapienza University of Rome	*Professional assignment* (4 months). Assignment title "Production and purification of mutant forms of PLP-dependent enzymes"
1997	1998	National Research Council (Consiglio Nazionale delle Ricerche)	*Annual Research Fellowship* (12 months) for research in foreign institutions. Project title "Origins of substrate specificity of glutamate 1-semialdehyde aminomutase, a key enzyme in chlorophyll biosynthesis". The research activity was carried out in the University of Wales, Cardiff, UK. Tutor Prof. Robert A. John
1995	1997	University of Wales, College of Cardiff	*Research Assistant* position (24 months) funded by the British Biotechnology and Biological Sciences Research Council. Principal Investigator Prof. Robert A. John. "Evaluation of novel biosynthetic capabilities based on vitamin B_6-dependent enzymes"

IIIB – Other Academic Appointments

Collegial Activities (Attività Collegiali) at Sapienza University of Rome

Start	End	Institution	Position
2020	present	Faculty of Pharmacy and Medicine	Elected member of the Faculty Committee (Giunta di Facoltà)
2016	present	Department of Biochemical Sciences	Member of the Teaching Board (Collegio docenti) of the Doctorate School in Biochemistry
2012	2014	Department of Biochemical Sciences	Member of the Teaching Board (Collegio

			docenti) of the Doctorate School in Biochemistry
2001	2004	Department of Biochemical Sciences	Elected member of the Department Committee (Giunta di Dipartimento)

Organizational tasks (Compiti Organizzativi) at Sapienza University of Rome

Start	End	Institution	Position
2021	present	Faculty of Pharmacy and Medicine	Referent of the Master's degree course in Biochemistry and Coordinator of its Organizing Committee (Comitato Ordinatore); member of the following commissions of the Master's degree course in Biochemistry: "Orientation", "Quality Management", "Access Commission", "Steering Committee" and "Evaluation Commission for the assignment of Tutoring Scholarships ".
2020	present	Department of Biology and Biotechnology - Faculty of Mathematical, Physical and Natural Sciences	Appointed member of the "Teaching Observatory Commission" (Commissione Osservatorio della didattica) of the bachelor degree course in Biological Sciences.
2017	present	Faculty of Pharmacy and Medicine and Faculty of Mathematical, Physical and Natural Sciences	Commission President (Responsabile d'aula) in admission tests for Bachelor degree courses in Biotechnology, Agro-industrial Biotechnology and Biological Sciences
2017	2018	Department of Biology and Biotechnology - Faculty of Mathematical, Physical and Natural Sciences	Appointed member of the Review Board (Commissione del Riesame) of the Bachelor degree course in Biological Sciences
2016	2019	Department of Biochemical Sciences	Tutor of secondary school students involved in work placement projects - "Alternanza Scuola-Lavoro"
2015	2020	Department of Chemistry - Faculty of Mathematical, Physical and Natural Sciences	Appointed member of the Teaching Commission (Commissione Didattica) of the Bachelor degree and master's degree courses in Industrial Chemistry
2015	2019	Department of Biology and Biotechnology - Faculty of Mathematical, Physical and Natural Sciences	Appointed member of the Student-Teacher Joint Commission (Commissione Paritetica) of the Bachelor degree course in Biological Sciences
2010	2015	Department of Biochemical Sciences	Appointed member of the Research Commission (Commissione Ricerca) of the Department of Biochemical Sciences
2007	-	Department of Biochemical Sciences	Appointed member of the Electoral Commission (Commissione Elettorale) of the Department of Biochemical Sciences
2005	-	Department of Biochemical Sciences	Appointed member of the Selection Board

			(Commissione giudicatrice) for the assignment of scholarships to support teaching activities – "Borse di collaborazione per attività di supporto alla didattica"
2005	2008	Department of Biochemical Sciences	Appointed member of the Teaching Commission (Commissione Didattica) of the Department of Biochemical Sciences
2003	2015	Department of Biochemical Sciences	Tutor of students with scholarship to support teaching activities (Borse di collaborazione per attività di supporto alla didattica) of the Bachelor degree courses in Biotechnology and Biological Sciences
2002	2014	Faculty of Pharmacy and Medicine	Timetable and classroom manager, II semester, II year of the Bachelor degree course in Biotechnology
2001	2002	Faculty of Pharmacy and Medicine	Responsible for planning and setting up the teaching laboratory of Biochemistry and Molecular Biology for the Bachelor degree course in Biotechnology.

Member of Selection Boards in Public Competitions or Final Doctoral Examinations

Start	End	Institution	Position
2021	-	University of Parma	Appointed member of the Evaluation Commission (Commissione Giudicatrice) for the Comparative Evaluation Competition to assign 1 temporary researcher position (RTDB - S.S.D. BIO/10).
2020	-	University of Verona	Appointed member of the Evaluation Commission (Commissione Giudicatrice) for the Comparative Evaluation Competition to assign 1 temporary researcher position (RTDA - S.S.D. BIO/10).
2018	-	Department of Biochemical Sciences, Sapienza University of Rome	Appointed member of the Evaluation Commission (Commissione di valutazione) for the admission to the Doctor of Philosophy (Ph.D) course in Biochemistry.
2016	-	University of Parma	Appointed member of the Commission "Board of Examiners" for awarding the Doctor of Philosophy (Ph.D) title in Biochemistry and Molecular Biology.
2015	-	University of Parma	Appointed member of the Commission "Board of Examiners" for awarding the Doctor of Philosophy (Ph.D) title in Biochemistry and Molecular Biology.
2008	-	University of Parma	Elected member of the Evaluation Commission (Commissione Giudicatrice)

			for the Comparative Evaluation Competition to assign 1 permanent researcher position (S.S.D. BIO/10).
2005	-	University of Verona	Elected member of the Evaluation Commission (Commissione Giudicatrice) for the Comparative Evaluation Competition to assign 1 permanent researcher position (S.S.D. BIO/10).

IIIC – Research Assignments at Qualified Research/Academic Institutions Abroad

Date	**Institution**	**Position**
December 2019 (7 days)	Belozersky Research Institute of Physico-Chemical Biology, Moscow State University, Russia.	Visiting Professor invited by Prof. Victoria Bunik, as participant to a bilateral agreements CNR–RFBR (Russian Foundation for Basic Research), to give a seminar and discuss the research activity in the context of our collaboration.
April 2019 (3 days)	Laboratory for Molecular Microbiology, Department of Biology, Philipps University, Marburg, Germany)	Visiting Professor invited by prof. Erhard Bremer to give a seminar (in the context of the SFB 987 framework "Microbial Diversity in Environmental Signal Response" – Philipps University and Max-Planck Institute for terrestrial Microbiology) entitled "The MocR-like transcription factors: pyridoxal 5'-phosphate-dependent regulators of bacterial metabolism" (1 Aprile 2019). The visit has been the occasion to discuss the common research interests on MocR transcriptional factors.
December 2018 (10 days)	Belozersky Research Institute of Physico-Chemical Biology, Moscow State University, Russia.	Visiting Professor invited by Prof. Victoria Bunik, as participant to a bilateral agreements CNR–RFBR (Russian Foundation for Basic Research), to give a seminar and discuss the research activity in the context of our collaboration.
July 2015 (10 days)	Department of Chemistry, University of Manitoba, Winnipeg, Canada.	Visiting professor invited by Prof. Jörg Stetefeld to carry out preliminary experiments for the structural characterization of the HemA-HemL complex and make future collaboration plans.
September 2002 (14 days)	Max Planck Institute for Terrestrial Microbiology, Marburg, Germany.	Guest researcher invited by Prof. Rudolf Thauer to carry out experiments in order to characterize the catalytic and thermodynamic properties of tetrahydromethanopterin-dependent serine hydroxymethyltransferase from *Methanococcus jannaschii*.
February 2001	Virginia Commonwealth University,	Guest researcher invited by Prof. Verne

(1 months)	Richmond, VA, USA.	Schirch to carry out experiments on the catalytic mechanism of threonine aldolase from *E. coli*.
January 2000 (2 months)	Virginia Commonwealth University, Richmond, VA, USA.	Guest researcher invited by Prof. Verne Schirch to carry out experiments on the catalytic mechanism of serine hydroxymethyltransferase from *E. coli*.
1995 – 1997 (2 years)	School of Biosciences, University of Wales, College of Cardiff, UK.	Research Assistant under a contract funded by the "Biotechnology and Biological Sciences Research Council" and the supervision of Prof. R. A. John. The aim of the work was the evaluation of new biosynthetic capacities based on enzymes dependent on vitamin B_6.

Part IV – Teaching experience

Teaching activity at Sapienza University of Rome

Starting from the 2001-2002 academic year, Prof. Contestabile has continuously carried out frontal teaching activity and laboratory practicals in the Bachelor degree courses in Biotechnology, Biological Sciences and Industrial Chemistry, and in the Master's degree course of Genetics and Molecular Biology.
Prof. Contestabile chaired the departmental commission that planned and promoted the establishment of the master's degree course in Biochemistry (international course taught in English) at Sapienza University of Rome. The master's degree course in Biochemistry was accredited by ANVUR (Agenzia Nazionale di Valutazione del Sistema Universitario della Ricerca - National Evaluation Agency of University and Research System) in June 2021 and started in October 2021 (https://corsidilaurea.uniroma1.it/it/corso/2021/31179/home). Prof. Contestabile is currently the Referent of this degree course and the Coordinator of its organizing committee (Comitato Ordinatore; delibera della Giunta di Facoltà, Facoltà di Farmacia e Medicina, 21st June 2021); he is also member of the following commissions of the master's degree course in Biochemistry: "Orientation", "Quality Management", "Access Commission", "Steering Committee" and "Evaluation Commission for the assignment of Tutoring Scholarships".

The university courses taught by Prof. Contestabile at Sapienza University concern General Biochemistry (structure and function of macromolecules, protein-ligand interactions, protein-protein interactions, vitamins, cofactors, metabolic pathways), Biochemical Methodologies (laboratory techniques for protein purification and analysis) and Enzyme Structure and Mechanisms (catalysis, cofactors, enzyme-ligand interactions). A part of the Biochemistry course in the Industrial Chemistry bachelor degree is devoted to Molecular Biology processes: DNA and RNA structure, DNA replication and transcription, the genetic code, mRNA translation on ribosomes, DNA recombinant techniques, site directed mutagenesis techniques, restriction enzymes, DNA sequencing, DNA cloning. The courses taught by Prof. Contestabile are listed in the table below:

Academic Year	Course name	Bachelor degree course in	CFU	Total CFU
2001/2002	Metodologie Biochimiche, modulo di Biochimica e Biotecnologie Biochimiche	Biotecnologie	3	**3**
2002/2003	Metodologie Biochimiche, modulo di Biochimica e Biotecnologie Biochimiche	Biotecnologie	3	**3**
2003/2004	Metodologie Biochimiche, modulo di Biochimica e Biotecnologie Biochimiche	Biotecnologie	3	**3**
2004/2005	Metodologie Biochimiche, modulo di Biochimica e Biotecnologie Biochimiche	Biotecnologie	3	**7**
	Chimica Biologica, modulo II	Sc. Biologiche	4	
2005/2006	Metodologie Biochimiche, modulo di Biochimica e Biotecnologie Biochimiche	Biotecnologie	3	**7**
	Chimica Biologica, modulo II	Sc. Biologiche	4	
2006/2007	Metodologie Biochimiche, modulo di Biochimica e Biotecnologie Biochimiche	Biotecnologie	3	**7**
	Chimica Biologica, modulo II	Sc. Biologiche	4	
2007/2008	Metodologie Biochimiche, modulo di Biochimica e Biotecnologie Biochimiche	Biotecnologie	3	**7**
	Chimica Biologica, modulo II	Sc. Biologiche	4	
2008/2009	Metodologie Biochimiche, modulo di Biochimica e Biotecnologie Biochimiche	Biotecnologie	3	**10**
	Chimica Biologica, modulo II	Sc. Biologiche	4	
	Struttura e meccanismi degli enzimi	LS in Genetica e Biologia Molecolare	3	

2009/2010	Metodologie Biochimiche, modulo di Biochimica e Biotecnologie Biochimiche	Biotecnologie	3	**10**
	Chimica Biologica, modulo II	Sc. Biologiche	4	
	Struttura e meccanismi degli enzimi, modulo di Metodi e Sistemi in Biochimica	LS in Genetica e Biologia Molecolare	3	

2010/2011	Metodologie Biochimiche, modulo di Biochimica e Biotecnologie Biochimiche	Biotecnologie	3	**9**
	Chimica Biologica, modulo II	Sc. Biologiche	3	
	Struttura e meccanismi degli enzimi, modulo di Metodi e Sistemi in Biochimica	LS in Genetica e Biologia Molecolare	3	

2011/2012	Metodologie Biochimiche, modulo di Biochimica e Biotecnologie Biochimiche	Biotecnologie	3	**12**
	Chimica Biologica	Sc. Biologiche	6	
	Struttura e meccanismi degli enzimi, modulo di Metodi e Sistemi in Biochimica	LS in Genetica e Biologia Molecolare	3	

2012/2013	Metodologie Biochimiche, modulo di Biochimica e Biotecnologie Biochimiche	Biotecnologie	3	**12**
	Chimica Biologica	Sc. Biologiche	6	
	Struttura e meccanismi degli enzimi, modulo di Metodi e Sistemi in Biochimica	LS in Genetica e Biologia Molecolare	3	

2013/2014	Metodologie Biochimiche, modulo di Biochimica e Biotecnologie Biochimiche	Biotecnologie	3	**15**
	Chimica Biologica	Sc. Biologiche	6	
	Biochimica	Chimica Industriale	6	

2014/2015	Chimica Biologica	Sc. Biologiche	6	**12**
	Biochimica	Chimica Industriale	6	

2015/2016	Chimica Biologica	Sc. Biologiche	6	**12**
	Biochimica	Chimica Industriale	6	

2016/2017	Chimica Biologica	Sc. Biologiche	6	**15**
	Biochimica	Chimica Industriale	6	
	Biochimica e Biotecnologie Biochimiche	Biotecnologie	3	

2017/2018	Chimica Biologica	Sc. Biologiche	6	**17**
	Biochimica	Chimica Industriale	6	
	Biochimica e Biotecnologie Biochimiche	Biotecnologie	5	

2018/2019	Chimica Biologica	Sc. Biologiche	6	**17**
	Biochimica	Chimica Industriale	6	
	Biochimica e Biotecnologie Biochimiche	Biotecnologie	5	

2019/2020	Chimica Biologica	Sc. Biologiche	6	**17**
	Biochimica	Chimica Industriale	6	
	Biochimica e Biotecnologie Biochimiche	Biotecnologie	5	

2020/2021	Chimica Biologica	Sc. Biologiche	6	**17**
	Biochimica	Chimica Industriale	6	
	Biochimica e Biotecnologie Biochimiche	Biotecnologie	5	

2021/2022	Chimica Biologica	Sc. Biologiche	6	**17**
	Biochimica	Chimica Industriale	6	
	Biochimica e Biotecnologie Biochimiche	Biotecnologie	5	

Prof. Contestabile has also been supervisor of about 80 Bachelor and Master's degree students for their final dissertation thesis and tutor of 5 doctoral students (in the Ph.D. school of Biochemistry); he continuously participates to the graduation evaluation commissions (commissioni di laurea) of Biotechnology and Biological Sciences courses (Bachelor and Master's degree courses). He is president of the exam evaluation commissions (commissioni di esame) of the Biological Chemistry (Bachelor degree in Biological Sciences), Biochemistry and Biochemical Biotechnologies (Bachelor degree course in Biotechnology) and Biochemistry (Bachelor degree course in Industrial Chemistry) courses;

Teaching activity in foreign academic institutions

1994-1998 During his period of research activity at the University of Wales, Cardiff, U.K., Prof. Contestabile collaborated to laboratory practical classes and trained undergraduate students.

Part V – Society memberships, Awards and Honors

Society memberships

Member of the Italian Society of Biochemistry and Molecular Biology (SIB) from 1996 to 2010, and from 2017 to present.

Awards

Year	Title
2021	Recipient of a "Una tantum" cash incentive for tutor activity in the bachelor degree course in Biotechnology
2018	Recipient of the "University Fund for Awards" (Fondo di Ateneo per la Premialità - art. 9 Legge n. 240/10) of Sapienza University of Rome
2017	Recipient of the "University Fund for Awards" (Fondo di Ateneo per la Premialità - art. 9 Legge n. 240/10) of Sapienza University of Rome
2001	Recipient of a contribution equivalent to 3500 euro from the Italian Society of Biochemistry and Molecular Biology (SIB) for studies and research to be carried out at the Virginia Commonwealth University (Richmond, VA, USA) from April 26th to May 24th, 2001.
1996	First prize for the best presentation of the research activity carried out during the Ph.D. studentship, awarded at the annual congress of Ph.D. students organized by the British Biochemical Society at the University of Exeter (Devon), U.K.

Reviewer activity

Year	Title
2021 - present	Expert Moderator of the EU Research Infrastructure Network MOSBRI (MOLECULAR-SCALE BIOPHYSICS RESEARCH INFRASTRUCTURE) (Horizon 2020 INFRAIA) at the MOSBRI partner Sapienza University of Rome, Department of Biochemical Sciences (DSB-UROM). Expert of rapid kinetic processes.
2017 - present	Member of "Reprise" - Digital register of independent scientific experts for the scientific evaluation of Italian research. Italian University and Research Ministry (MUR)
2012 - 2015	Scientific reviewer of funding requests on behalf of the Italian University and Research Ministry, or on behalf of Italian Universities: • University of Insubria, "Procedura competitiva per l'assegnazione dei fondi di Ateneo destinati all'attivazione di assegni di ricerca" (2015); • PRIN 2012 (MIUR); • "Futuro in Ricerca" (MIUR) 2013.

2004-2020	Scientific reviewer of funding requests on behalf of foreign research institutions: • Czech Science Foundation, Czech Republic (2020); • Deutsche Forschungsgemeinschaft German (DFG, Germania) (2015); • Fonds zur Förderung der wissenschaftlichen Forschung (FWF, Austrian Science Fund) (2004).
2010 - present	Reviewer of international peer-reviewed scientific journals: Journal of Biological Chemistry; The FEBS Journal; Scientific Reports; Molecular Microbiology; European Biophysics Journal; BBA Proteins and Proteomics; BBA molecular basis of disease; PROTEINS: Structure, Function, and Bioinformatics; The European Journal of Biochemistry; Enzyme and Microbial Technology; International Journal of Biological Macromolecules; Medical Hypothesis; Molecular Cancer Research; Letters in Organic Chemistry; The Journal of Organic Chemistry; Flavour and Fragrance Journal; PlosONE; Environmental Microbiology; Journal of Structural Biology; Molecular Genetics and Genomics; Enzyme and Microbial Technology; Cells; Frontiers in Genetics; Frontiers in Molecular Biosciences; Journal of Pediatric Epilepsy.

Editorial activity

Year	**Title**
2020 - present	Editorial Board member of "Life" (MDPI). https://www.mdpi.com/journal/life/editors - editorialboard
2020 - present	Guest editor of the special issue "Ligand Binding in Enzyme Systems" of the "International Journal of Molecular Sciences" (MDPI). https://www.mdpi.com/journal/ijms/special_issues/enzyme_systems
2020 - present	Guest editor of the special issue "Methods for Measuring Enzyme Activity" of "Life" (MDPI). https://www.mdpi.com/journal/life/special_issues/Measure_Enzyme
2018 - present	Guest Associate Editor of "Frontiers in Bioengineering and Biotechnology" (Frontiers Media SA), "Bioprocess Engineering" section https://loop.frontiersin.org/people/478732/overview
2018 - present	Review Editor of "Frontiers in Molecular Biosciences" (Frontiers Media SA), "Protein Chemistry and Enzymology" section. https://loop.frontiersin.org/people/478732/overview
2017 - 2018	Guest Editor of "Frontiers in Bioengineering and Biotechnology" (Frontiers Media SA), research Topic: "PLP-Dependent Enzymes: Extraordinary Versatile Catalysts and Ideal Biotechnological Tools for the Production of Unnatural Amino Acids and Related Compounds". https://www.frontiersin.org/research-topics/7159/plp-dependent-enzymes-extraordinary-versatile-catalysts-and-ideal-biotechnological-tools-for-the-pro
2013 - 2014	Guest editor of the special issue "PLP-dependent enzymes", of "Biomed Research International" (Hindawi). https://www.hindawi.com/journals/bmri/si/536838/

Technology transfer

Year	Title
2016 - 2020	Prof. Contestabile was among the creators of “SapienZyme”, an enzyme activity assay service which operated within the "MoLiRom" spin-off of Sapienza University of Rome
2020 -	Patent pending “Use of Nucleic Acids as Inhibitors of Serine Hydroxymethyltransferase” – Sapienza University of Rome – Leader Applicant Prof. Francesca Cutruzzolà.

Invited guest for seminars

2021 Biochemistry Webinar Series, organised within the European CIVIS alliance by the University of Aix-Marseille. “Vitamin B_6 metabolism in health and disease” – 5th November 2021.

2020 “Seminari del dì di Venere”, Seminars of the Biochemistry Doctorate School, Sapienza University of Rome, April 7th 2020. “Vitamin B_6 metabolism in health and disease”.

2020 Seminars of the Biomolecular Medicine Doctorate School, Verona University, May 18th 2020. “Regulation of Vitamin B_6 homeostasis”.

2017 Biomedicine upfront in Genetics and Neurobiology - Erasmus exchange DDIF, Department of Biology and Biotechnology “Charles Darwin”, Sapienza University of Rome, December 18th-22nd 2017. “Vitamin B_6 salvage enzymes: mechanism, structure, regulation and implication in brain disease”.

2007 Invited guest at the Karolinska Institutet, Stockholm February 17th 2007. “Catalytic promiscuity and the evolution of pyridoxal 5’-phosphate-dependent enzymes”

Invited speaker at national conferences

2016 Annual Congress of the Department of Biology and Biotechnology “Charles Darwin”, Sapienza University of Rome, Abbazia di Sant’Andrea in Flumine, Ponzano Romano, Italy, June 14th-15th 2016. "Differential 3-Bromopyruvate Inactivation of Cytosolic and Mitochondrial Human Serine Hydroxymethyltransferase Isoforms, Key Enzymes in Cancer Metabolic Reprogramming".

2007 The 20th National Meeting “A. Castellani” of Italian Ph.D: students in biochemical disciplines, Brallo di Pregola (PV), June 12th-15th 2007. “Il folding delle proteine: dinamica e influenza dei cofattori”.

1996 The Wales and West pre-doctoral Conference, British Biochemical Society, University of Exeter, U.K., March 18th-20th 1996."The mechanism of high-yielding chiral syntheses catalysed by wild-type and mutant forms of aspartate aminotransferase".

Invited speaker at international conferences

2014 The 4th International Conference on Cofactors (ICC-04), 25th-28th August 2014, Parma, Casa della Musica, Italy. "PdxR: a Pyridoxal 5’-Phosphate-Dependent Transcriptional Regulator Involved in the Control of PLP Biosynthesis".

2011 The 3rd International Conference on Cofactors (ICC-03), July 10th-15th 2011, University of Turku, Turku, Finland. "On the mechanism of addition of pyridoxal 5'-phosphate to serine hydroxymethyltransferase".

2002 The 3rd International Symposium on Vitamin B_6, PQQ, Carbonyl Catalysis and Quinoproteins, 14th-19th April 2002, Southampton, United Kingdom. "L-Threonine aldolase, serine hydroxymethyltransferase and fungal alanine racemase. A subgroup of strictly related enzymes with different functions".

2001 "Quo Vadis Proteomics", Napoli, Italy, March 26th. "Studies on the evolutionary origins of pyridoxal-phosphate-dependent enzymes: catalytic promiscuity and reaction specificity".

1999 The 2nd International Symposium on Vitamin B_6, PQQ, Carbonyl Catalysis and Quinoproteins, October 31st – November 5th 1999, Santa Fe, New Mexico, U.S.A. "The contribution of a conformationally-mobile, active-site loop to the reaction catalysed by glutamate semialdehyde aminomutase".

1997 European meeting on pyridoxal phosphate-dependent enzymes, Basel, Switzerland, September 20th-23rd 1997. "Asymmetric reactivity of glutamate semialdehyde aminomutase with cyanoborohydride".

Part VI - Funding Information

Grants as PI-principal investigator

Year	Title	Program	Grant value
2020 - 2021	"Studies on the role of pyridoxine 5'-phosphate oxidase in vitamin B_6 homeostasis"	Sapienza University of Rome – Ricerche di Ateneo, Progetti Medi. Prot. RM120172A76E4B78	€ 10.000
2019 - 2020	"Role and mechanism of action of the human pyridoxal 5'-phosphate-binding protein (PLP-BP) in vitamin B6 metabolism. Molecular basis of PLP-BP-dependent epilepsy"	Sapienza University of Rome – Ricerche di Ateneo, Progetti Medi. Prot. RM11916B51484C08	€ 11.930
2018 - 2020	"Regulation of vitamin B_6 metabolism and bioavailability in Eubacteria"	Italian Pasteur Institute – Cenci Bolognetti Foundation. "Anna Tramontano" three-year senior grant. http://www.istitutopasteuritalia.it/2020/01/roberto-contestabile/	€ 60.000
2017 - 2018	"Determining the identity of the missing enzyme in human carnitine biosynthetic pathway"	Sapienza University of Rome – Ricerche di Ateneo, Progetti Piccoli. Prot. RP11715C7CB4FED4	€ 3.000
2011 - 2012	"Mechanism and Regulation of Pyridoxal 5'-Phosphate Biosynthesis and Bioavailability"	Sapienza University of Rome – Ricerche di Ateneo, Progetti Medi. Prot. C26A11KHY2	€ 10.330
2007 - 2008	"On the molecular basis of the stereospecificity of glutamate semialdehyde aminomutase"	Sapienza University of Rome – Visiting Professor Grant. Invited Professor: Robert A. John, School of Biosciences, University of Wales, Cardiff, U.K. Prot. C26V07RN73	€ 3.140
2002 - 2004	"Glutamate semialdehyde	Italian Pasteur Institute – Cenci	€ 18.000

	aminomutase: a potential target of antibacterial agents".	Bolognetti Foundation. Three-year grant	
2001 - 2002	"La glutammato 1-semialdeide aminomutasi, un potenziale bersaglio di agenti antimicrobici"	Sapienza University of Rome –Progetti Giovani Ricercatori	€ 7.000

Grants as I-investigator

Year	Title	Program	Grant value
2021- 2025	MOSBRI Project (Molecular-Scale Biophysics Research Infrastructure)	European Comunity Horizon 2020 INFRAIA call. MOSBRI Project, consortium of 2 companies and 13 academic centres of excellence from 11 different European countries. Coordinated by the Pasteur Institute (Paris). The DSB-UROM partner (Department of Biochemical Sciences, Sapienza University), is coordinated by Prof. Francesca Cutruzzolà. Prof. Contestabile is a member of the Analysis of Rapid Processes Facility (ARP). https://sites.google.com/uniroma1.it/francescacutruzzola-eng/infrastructures	€ 5.000.000
2021- 2023	"APTASER". Development of nucleic acid inhibitors directed towards the enzyme serine hydroxymethyltransferase (SHMT) in the context of lung cancer. Life Science S3 Area, Oncology	Regione Lazio - "Gruppi di ricerca 2020" - POR FESR Lazio 2014-2020 - Action 1.2.1. Prot. n. A0375-2020-36544 del 26/10/2020. P.I. Prof. Francesca Cutruzzolà	€ 149.961
2021 - 2023	"Molecular characterization of enzymes involved in vitamin B_1- and B_6-dependent epilepsies"	Bilateral agreements CNR–RFBR (Russian Foundation for Basic Research). (Project B85F20002990005 - 2021-2023). P.I. Dr. Angela Tramonti.	€ 120.000
2020 - 2021	"Structural and functional characterization of serine hydroxymethyl transferase isoforms from *Arabidopsis thaliana*".	Bilateral agreement CNR–PAN (Polish Academy of Sciences) (Project SAC.AD002.039). P.I. Dr. Maria Isabel Nogués.	€ 3000
2019 - 2024	"Dissecting Serine Hydroxymethyltransferase functions to target lung cancer metabolic reprogramming"	AIRC (Italian Association for Cancer Research) Investigator Grant. Three/five-year grant. P.I. Prof. Francesca Cutruzzolà	€ 255.000
2018 - 2023	"A Structure-guided Approach to Target the Aurora-A/N-Myc complex in MYCN-amplified Neuroblastoma"	AIRC (Italian Association for Cancer Research) My First AIRC Grant. Three/five-year grant. P.I. Prof. Alessandro Paiardini	€ 303.000
2018 - 2020	"Molecular basis of rare neurological disorders caused by	Bilateral agreements CNR–RFBR (Russian Foundation for Basic	€ 120.000

	mutations in pyridoxal-5'-phosphate- and thiamine-diphosphate-binding proteins.”	Research). (Project SAC.AD002.020.017 - 2018-2020) P.I. Dr. Angela Tramonti.	
2018 - 2019	“Dissecting Serine Hydroxymethyltransferase functions to target cancer metabolic reprogramming”	Sapienza University of Rome Ricerche di Ateneo, Progetti di Ricerca Grandi. Prot. RG11816430AF48E1 P.I. Prof. Francesca Cutruzzolà	€ 30.000
2018	“Platform for a precision mass measurement in sequencing of therapeutic proteins (PREMISE)”	Sapienza University of Rome Ricerche di Ateneo, Grandi Attrezzature. Prot. GA118164897F9CB1 P.I. Prof. Alberto Boffi	€ 512.000
2015 - 2018	“Serine/glycine one-carbon metabolism and cancer: biological role and inhibition of Serine Hydroxymethyltransferase"	AIRC (Italian Association for Cancer Research). Three-year grant. P.I. Prof. Francesca Cutruzzolà	€ 180.000
2015	“Stazione robotica di analisi di flussi cellulari in ipossia (Hypoxic Analysis of Cell Behaviour, Hyp-ACB)”	Sapienza University of Rome Ricerche di Ateneo, Grandi Attrezzature. Prot. GA116154C8A94E3D P.I. Prof. Francesca Cutruzzolà	€ 440.000
2014 - 2015	“Platform of a eukaryote cell system for the expression of heterologous proteins and for the toxicological screening of bioactive, environmental and alimentary interfering substances”	Italian Regione Lazio (FILAS RU-2014-1020). Two-year grant. P.I. Prof. Paolo Sarti Prof. Contestabile was co-responsible for the project section "Expression, characterization and production of substances with probiotic, antioxidant and cytotoxic activity"	€ 218.750
2013 - 2016	“Probing the Metabolic Reprogramming of Tumor Cells by Inhibition of Serine Hydroxymethyltransferase”	AIRC (Italian Association for Cancer Research). Three-year grant. P.I. Prof. Francesca Cutruzzolà	€ 183.000
2008 - 2010	"Synthesis of pyridoxal phosphate in the vitamin B6 salvage pathway and targeting of the cofactor to apo-enzymes".	Italian Pasteur Institute – Cenci Bolognetti Foundation. P.I. Prof. Martino Luigi di Salvo	€ 34.000
2001 - 2009	Participant to 4 PRIN and 1 FIRB projects on the structure-function relationships of pyridoxal 5’-phosphate-dependent enzymes.	MIUR – Italian Ministry of University and Reasearch	€ 1.000.000
2001 – 2014	Participant to several projects focused on protein structure, function and ligand binding properties.	Sapienza University of Rome – Ricerche di Ateneo	-

Part VII – Research Activities

Keywords
Vitamin B_6 metabolism; pyridoxal 5'-phosphate biosynthesis and recycling pathways; vitamin B_6 homeostasis; DNA-protein interactions; ligand-protein interactions; protein-protein interactions; enzyme regulation; allosteric regulation; transcriptional regulation; molecular basis of diseases; one-carbon units metabolism; cancer metabolism; pyridoxal phosphate-dependent enzymes; enzyme catalysis; enzyme inhibition; structure-function relationships in proteins; non-canonical amino acids; metabolic engineering.

Brief description
The research activity of Prof. Roberto Contestabile concerns Biochemistry and Molecular Biology topics, with particular attention to: *i*) the mechanisms of regulation of vitamin B_6 metabolism at the enzyme and transcriptional levels, in humans and bacteria; *ii*) the molecular basis of neurological diseases caused by defects of vitamin B_6 metabolism; *iii*) one-carbon units metabolism and cancer metabolic reprogramming; *iv*) enzyme and cofactor catalysis and *v*) enzyme inhibition. These studies mainly focus on protein-ligand, protein-protein and protein-DNA interactions.
At the beginning of his carrier, Prof. Contestabile devoted his research activity to the study of pyridoxal 5'-phosphate (PLP)-dependent enzymes, contributing to the understanding of the catalytic and inhibition mechanism of several enzymes, through site-directed mutagenesis, rapid and steady-state kinetic studies. For the enzyme kinetics studies, the experience in the laboratory lead by Prof. Robert. A. John (University of Wales, Cardiff, UK) was of paramount importance. Prof. Contestabile has focused his interest on the catalytic mechanism of serine hydroxymethyltransferase (SHMT), a fundamental enzyme in one-carbon units metabolism. These studies were often carried out in collaboration with Prof. Verne Schirch (Virginia Commonwealth University, Richmond, VA, USA). SHMT plays an important role in the metabolic reprogramming of cancer cells and is a recognized target of chemotherapeutic agents. These characteristics of SHMT are at the basis of the fruitful collaboration with Prof. Francesca Cutruzzolà, Sapienza University of Rome, regarding studies on the role of this enzyme in cancer metabolism and the experimentation of inhibitors within three consecutive AIRC projects, which started in 2013 and are still in progress. In the last ten years, the scientific interest of Prof. Contestabile has also focused on the mechanism of regulation and homeostasis of vitamin B_6 metabolism in bacteria and in humans.
With respect to bacteria, the investigations have concerned a family of PLP-dependent transcriptional regulators named MocR transcriptional factors, in particular, their general characterization, mechanism of action and specific interactions with the DNA promoter region. In this respect the research activity has concerned the PtsJ transcriptional repressor from the pathogen bacterium *Salmonella typhimurium*, the PdxR transcriptional activator from *Bacillus clausii* and the GabR transcriptional activator from *Bacillus subtilis*.
An intense research activity has been carried out on the mechanism of action, regulation and allosteric inhibition of *Escherichia coli* pyridoxal kinase (PLK) and pyridoxine 5'-phosphate oxidase (PNPO). In particular, these studies have concerned the mechanism of regulatory inhibition of these enzymes as a consequence of protein-ligand interactions (protein-pyridoxal and protein-PLP interactions). In humans, maintaining an adequate concentration of PLP in the cell is essential for the correct function of the central nervous system and the failure to do so is related to the onset of severe neurological disorders, such as epilepsy. In this regard, the research activity of Prof. Contestabile has focused on the molecular basis of PNPO deficiency, which is responsible for a rare form of neonatal epileptic encephalopathy. The research activity was carried out in collaboration with Prof. Martin Safo (Virginia Commonwealth University, Richmond, VA, USA), Prof. Tzu-Fun Fu (National Chen Kung University,

Taiwan), Dr. Philippa B. Mills (University College of London, UK), Prof. Victoria Bunik (Lomonosov Moscow State University, Russia) and with the clinical team directed by Prof. Vincenzo Leuzzi (Sapienza University). The implication of human PLK variants in diabetes was investigated in collaboration with Dr. Fiammetta Vernì (Sapienza University of Rome) and Prof. Fabrizio Barbetti (University of Rome Tor Vergata).
Protein-protein interaction studies on the HemA and HemL enzymes, involved in tetrapyrroles biosynthesis, have been carried out in collaboration with Prof. Jörg Stetefeld (University of Manitoba, Winnipeg, Canada). Extensive studies on HemL (glutamate 1-semialdehyde aminomutase) have been carried out by Prof. Contestabile in the light of the potential role of this enzyme as target of antibacterial agents in the fight against pathogenic bacteria.
Prof. Contestabile has applied his knowledge on PLP-dependent enzymes to the biotechnological use of these enzymes in the semi-synthetic production of unnatural amino acids. This line of research, which was carried out in collaboration with Prof. Nediljco Budisa (Technische Universität Berlin, Germany and University of Manitoba, Canada), has interesting application developments regarding the metabolic engineering of microorganisms and the translational reprogramming at the ribosomal level.

Experimental Methodologies
Classical Molecular Biology and Biochemical methodologies. Site-directed mutagenesis. Recombinant DNA techniques. Protein expression in *E. coli*. Protein purification. Western blot. Steady-state and rapid enzyme kinetics. Absorbance, fluorescence and circular dichroism spectroscopy. Stopped-flow spectrophotometry and fluorimetry. Differential scanning fluorimetry. Quantitative, real-time PCR. Metabolic engineering, translational reprogramming, incorporation of non-canonical amino acids. HPLC analysis of small molecules and metabolites.

Participation to training courses
1. ELIXIR-EXCELERATE Train the Trainer (TtT) course: 27-28 September 2018, Dept. of Biochemical Sciences, Sapienza University of Rome;
2. “First Introductory School of Metabolomic Analysis” 25 March 2006, Latina;
3. “First Biosapiens Permanent European School in Bioinformatics” 7-13 July 2004, Verona;
4. “Innovative techniques in DNA sequencing” 9-10 November 1992, Trieste.

Research experience abroad
Prof. Contestabile has carried out an extensive research activity abroad, including long periods during his doctoral and post-doctoral activity, and short periods as visiting researcher and professor:

2016 10 days as visiting professor at the Department of Chemistry, University of Manitoba, Winnipeg, Canada, invited by Prof. Jörg Stetefeld to carry out preliminary experiments for the structural characterization of the HemA-HemL complex and make future collaboration plans;

2002 14 days as visiting researcher at the Max Planck Institute for Terrestrial Microbiology, Marburg, Germany, invited by Prof. Rudolf Thauer to carry out experiments in order to characterize the catalytic and thermodynamic properties of tetrahydromethanopterin-dependent serine hydroxymethyltransferase from *Methanococcus jannaschii*;

2001 1 month as visiting researcher at the Virginia Commonwealth University, Richmond VA, USA, invited by Prof. Verne Schirch to carry out experiments on the catalytic mechanism of threonine aldolase;

2000 2 months as visiting researcher at the Virginia Commonwealth University, Richmond VA, USA, invited by Prof. Verne Schirch to carry out experiments on the catalytic mechanism of serine hydroxymethyltransferase;

1997 1 year as postdoctoral fellow at the Cardiff School of Biosciences, Cardiff University, UK. The research activity was financed by a fellowship from the Italian National Research Council. Project title "Origins of substrate specificity of glutamate 1-semialdehyde aminomutase, a key enzyme in chlorophyll biosynthesis";

1995 2 years as Research Assistant at the School of Biosciences, University of Wales, College of Cardiff (UK), with a contract funded by the "Biotechnology and Biological Sciences Research Council" and directed by Prof. R. A. John. The aim of the work was the evaluation of new biosynthetic capacities based on enzymes dependent on vitamin B_6;

1994 3 years as Ph.D. student in Biochemistry (British PhD) at the School of Biosciences, University of Wales, College of Cardiff (UK). The research activity concerned the catalytic mechanism of two enzymes dependent on pyridoxal 5'-phosphate: glutamate 1-semialdehyde aminomutase and aspartate aminotransferase.

Part VIII – Summary of Scientific Achievements

Product type	**Number**	**Data Base**	**Start**	**End**
Papers [international]	80	*Scopus*	1993	2021
Papers [national]	-	-	-	-
Books [scientific]	6	*Google Scholar*	2000	2013
Books [teaching]	5	-	2007	2019

Note 1: Impact Factor (IF) values refer to the specific year of publication and are taken from the Journal Citation Reports™ database (n.d.: not available). For articles published in 2021, the IF of year 2020 was considered.

Note 2: The number of citations (no. Cit.) is taken from the Scopus database.

Note 3: The candidate's name is underlined and his contribution to the publication is specified: first author, last author, corresponding author, co-first, co-last and co-corresponding author.

Product type	Number	Data base	Start - End
Articles in peer-reviewed and indexed international journals	80	*Scopus*	1993 - 2021
Candidate's contribution:			
First author	5		
Co-first author	3		
First and Corresponding	1		
Last and Corresponding author	14		
Last and Co-corresponding author	9		
Corresponding	2		
Co-corresponding	4		
Last author	2		
Co-last author	2		
Percentage of First, First and Corresponding, Co-first author	11.25%		
Percentage of Last and Corresponding, Last and Co-corresponding, Corresponding, Co-corresponding author	36.25%		
Percentage of Last and Co-last	5%		
Percentage of prominent positions (all the categories above)	52.5%		

Articles in peer-reviewed International Journals with Impact Factor, IF (considering the IF of the publication year , and the IF of year 2020 for publications in 2021)	68	*Incites-JCR Journal Citation Reports*	1997 - 2021
TOTAL IMPACT FACTOR	**287.060**		
AVERAGE IMPACT FACTOR PER PRODUCT	**4.221**		

Total articles in peer-reviewed International Journals with Citations	80	*Scopus*	1993 - 2021
TOTAL CITATIONS	**1723**		
AVERAGE CITATIONS PER PRODUCT	**21.54**		

Hirsh (H) Index	**24**	*Scopus*	
Normalized H Index (divided by the academic seniority)	**0.827**		

ASN (National Scientific Qualification) simulation of scientific production indicators of the period 2006/2011/2016-2021. Source: IRIS Research Product Catalogue, Sapienza University of Rome. 05/E1 – General Biochemistry and Clinical Biochemistry

	Value	Indicator	Threshold value	State
Full professor	53	Articles in the last 10 years	20	**POSITIVE**
	1305	Citations in the last 15 years	519	**POSITIVE**
	21	H index in the last 15 years	13	**POSITIVE**
	Is the ASN simulation for the role of Full Professor successful?			**POSITIVE**

	Value	Indicator	Threshold value	State
Examiner	53	Articles in the last 10 years	29	**POSITIVE**
	1305	Citations in the last 15 years	1050	**POSITIVE**
	21	H index in the last 15 years	18	**POSITIVE**
	Is the ASN simulation for the role of Examiner successful?			**POSITIVE**

ASN (National Scientific Qualification) simulation of scientific production indicators of the period 2006/2011/2016-2021. Source: IRIS Research Product Catalogue, Sapienza University of Rome. 05/E2 – Molecular Biology

	Value	Indicator	Threshold value	State
Full professor	53	Articles in the last 10 years	18	**POSITIVE**
	1305	Citations in the last 15 years	723	**POSITIVE**
	21	H index in the last 15 years	14	**POSITIVE**
	Is the ASN simulation for the role of Full Professor successful?			**POSITIVE**

	Value	Indicator	Threshold value	State
Examiner	53	Articles in the last 10 years	31	**POSITIVE**
	1305	Citations in the last 15 years	1287	**POSITIVE**
	21	H index in the last 15 years	19	**POSITIVE**
	Is the ASN simulation for the role of Examiner successful?			**POSITIVE**

Part IX– Selected Publications for the evaluation

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

Note 1: Impact Factor (IF) values refer to the specific year of publication and are taken from the Journal Citation Reports™ database. For the article published in 2021, the IF of year 2020 was considered.
Note 2: The number of citations (no. Cit.) is taken from the Scopus database.
Note 3: The candidate's name is underlined and his contribution to the publication is specified: first author, last author, corresponding author, co-first, co-last and co-corresponding author.

1. Barile, A., Battista, T., Fiorillo, A., di Salvo, M.L., Malatesta, F., Tramonti, A., Ilari, A., Contestabile, R. (2021) Identification and characterization of the pyridoxal 5'-phosphate allosteric site in *Escherichia coli* pyridoxine 5'-phosphate oxidase. *J Biol Chem*, **296**:100795. Published, Papers in Press. Epub 2021 May 18. doi: 10.1016/j.jbc.2021.100795. **IF (2020) = 5.157; n. cit. 0**. Last and corresponding author.

2. Barile, A., Nogués, I., di Salvo, M.L., Bunik, V., Contestabile, R., Tramonti, A. (2020) Molecular characterization of pyridoxine 5'-phosphate oxidase and its pathogenic forms associated with neonatal epileptic encephalopathy. *Sci Rep,* **10**:13621. doi: 10.1038/s41598-020-70598-7. **IF (2020) = 4.379; n. cit. 4**. Co-corresponding author.

3. Nogués, I., Tramonti, A., Angelaccio, S., Ruszkowski, M., Sekula, B., Contestabile R. (2020) Structural and kinetic properties of serine hydroxymethyltransferase from the halophytic cyanobacterium *Aphanothece halophytica* provide a rationale for salt tolerance. *Int J Biol Macromol*, **159**:517-529. doi: 10.1016/j.ijbiomac.2020.05.081. **IF (2020) = 6.953; n. cit. 1**. Last and corresponding author.

4. Nardella, C., Barile, A., di Salvo, M.L., Milano, T., Pascarella, S., Tramonti, A., Contestabile, R. (2020) Interaction of *Bacillus subtilis* GabR with the gabTD promoter: role of repeated sequences and effect of GABA in transcriptional activation. *FEBS J*, **287**(22):4952-4970. doi: 10.1111/febs.15286. **IF (2020) = 5.542; n. cit. 3**. Last and co-corresponding author.

5. Nardella, C., Boi, D., di Salvo, M.L., Barile, A., Stetefeld, J., Tramonti, A., Contestabile, R. (2019) Isolation of a Complex Formed Between *Acinetobacter baumannii* HemA and HemL, Key Enzymes of Tetrapyrroles Biosynthesis. *Front Mol Biosci*. **6**:6. doi: 10.3389/fmolb.2019.00006. **IF (2019) = 4.188; n. cit. 4**. Last and co-corresponding author.

6. Guiducci, G., Paone, A., Tramonti, A., Giardina, G., Rinaldo, S., Bouzidi, A., Magnifico, M.C., Marani, M., Menendez, J.A., Fatica, A., MacOne, A., Armaos, A., Tartaglia, G.G., Contestabile, R., Paiardini, A., Cutruzzolà, F. (2019) The moonlighting RNA-binding activity of cytosolic serine hydroxymethyltransferase contributes to control compartmentalization of serine metabolism *Nucleic Acid Res*, **47** (8), pp. 4240-4254. doi: 10.1093/nar/gkz129 **IF (2019) = 11.502; n. cit. 10**

7. Tramonti, A., Paiardini, A., Paone, A., Bouzidi, A., Giardina, G., Guiducci, G., Magnifico, M.C., Rinaldo, S., McDermott, L., Menendez, J.A., Contestabile, R., Cutruzzolà, F. (2018) Differential inhibitory effect of a pyrazolopyran compound on human serine

hydroxymethyltransferase-amino acid complexes. *Arch. Biochem. Biophys.*, **653**, pp. 71-79. doi: 10.1016/j.abb.2018.07.001 **IF (2018) = 3.559; n. cit. 9** Co-corresponding author.

8. Tramonti, A., Milano, T., Nardella, C., di Salvo, M.L., Pascarella, S., Contestabile, R. (2017) *Salmonella typhimurium* PtsJ is a novel MocR-like transcriptional repressor involved in regulating the vitamin B_6 salvage pathway. *FEBS J*, **284**, 466-484; doi: 10.1111/febs.13994. Epub 2017 Jan 9. **IF (2017) = 4.530; n. cit. 9.** Last and corresponding author.

9. Mkrtchyan, G., Aleshin, V., Parkhomenko, Y., Kaehne, T., Di Salvo, M.L., Parroni, A., Contestabile, R., Vovk, A., Bettendorff, L., Bunik, V. (2015) Molecular mechanisms of the non-coenzyme action of thiamin in brain: biochemical, structural and pathway analysis. *Sci Rep*, **5**, 12583; doi: 10.1038/srep12583. **IF (2015) = 5.228; n. cit. 63**

10. Tramonti, A., Fiascarelli, A., Milano, T., di Salvo, M.L., Nogués, I., Pascarella, S., Contestabile, R. (2015) Molecular mechanism of PdxR - a transcriptional activator involved in the regulation of vitamin B_6 biosynthesis in the probiotic bacterium *Bacillus clausii*. *FEBS J*, **282**, 2966-84; doi: 10.1111/febs.13338. **IF (2015) = 4.237; n. cit. 22**. Last and corresponding author.

11. di Salvo, M.L., Remesh, S.J., Vivoli, M., Ghatge, M.S., Paiardini, A., D'Aguanno, S., Safo M.K., Contestabile, R. (2014) On the catalytic mechanism and stereospecificity of *Escherichia coli* L-threonine aldolase. *FEBS J*, **281**, 129-145; doi: 10.1111/febs.12581. **IF (2014) = 4.001; n. cit. 37**. Last and corresponding author.

12. Ghatge, M.S., Contestabile, R., di Salvo, M.L., Desai, J.V., Gandhi, A.K., Camara, C.M., Florio, R., González, I.N., Parroni, A., Schirch, V., Safo, M.K. (2012) Pyridoxal 5'-Phosphate is a Slow Tight Binding Inhibitor of *E. coli* Pyridoxal Kinase. *PloS ONE*, **7**(7):e41680; doi: 10.1371/journal.pone.0041680. **IF (2012) = 3.730; n. cit. 30**. Co-first author.

13. Vivoli, M., Angelucci, F., Ilari, A., Morea, V., Angelaccio, S., di Salvo, M.L., Contestabile, R. (2009) Role of a conserved active site cation-pi interaction in *Escherichia coli* serine hydroxymethyltransferase. *Biochemistry*, **48**, 12034-46; doi: 10.1021/bi901568b. **IF (2009) = 3.226; n. cit. 29**. Last and Co-corresponding author.

14. Amadasi, A., Bertoldi, M., Contestabile, R., Bettati, S., Cellini, B., di Salvo, M., Borri-Voltattorni, C., Bossa, F., Mozzarelli, A. (2007) Pyridoxal 5'-phosphate enzymes as targets for therapeutic agents. *Curr Med Chem*, **14**, 1291-1324; doi: 10.2174/092986707780597899. **IF (2007) = 4.944; n. cit. 146**. Co-first author.

15. Angelaccio, S., Chiaraluce, R., Consalvi, V., Buchenau, B., Giangiacomo, L., Bossa, F., Contestabile, R. (2003) Catalytic and Thermodynamic Properties of Tetrahydromethanopterin-dependent Serine Hydroxymethyltransferase from *Methanococcus jannaschii*. *J Biol Chem*, **278**, 41789-41797. doi: 10.1074/jbc.M306747200. **IF (2003) = 6.482 ; n. cit. 22**. Last and corresponding author.

16. Contestabile, R., Angelaccio, S., Maytum, R., Bossa, F., John, R.A. (2000) The contribution of a conformationally mobile, active site loop to the reaction catalyzed by glutamate semialdehyde aminomutase. *J Biol Chem*, **275**, 3879-3886. doi: 10.1074/jbc.275.6.3879. **IF (2000) = 7.368; n. cit. 19**. First Author.

SUMMARY OF BIBLIOMETRIC INDICES OF SELECTED PUBLICATIONS

Product type	**Number**	**Data base**	**Start - End**
Articles in peer-reviewed and indexed international journals	16	*Scopus*	2000 - 2021
Candidate's contribution:			
First author	1		
Co-first author	2		
Last and corresponding author	6		
Last and co-corresponding author	3		
Co-corresponding author	2		
Percentage of First/Co-first author	18.75%		
Percentage of Last and Corresponding	37.50%		
Percentage of Last and Co-corresponding	18.75%		
Percentage of Co-corresponding	12.50%		
Percentage of prominent positions: First, Co-first, Last and corresponding, Last and Co-corresponding, Co-corresponding	**87.50%**		

Articles in peer-reviewed International Journals with Impact Factor, IF (considering the IF of the publication year , and the IF of year 2020 for publications in 2021)	16	*Incites-JCR Journal Citation Reports*	2000 - 2021
TOTAL IMPACT FACTOR	**85.026**		
AVERAGE IMPACT FACTOR PER PRODUCT	**5.314**		

Total articles in peer-reviewed International Journals with Citations	16	*Scopus*	2000 - 2021
TOTAL CITATIONS	**408**		
AVERAGE CITATIONS PER PRODUCT	**25.500**		

Parte X – List of all Scientific publications in peer-reviewed journals used to calculate the bibliometric indices. (whose summary is reported in Part VIII)

Note 1: Impact Factor (IF) values refer to the specific year of publication and are taken from the Journal Citation Reports™ database (n.d.: not available). For articles published in 2021, the IF of year 2020 was considered.
Note 2: The number of citations (no. Cit.) is taken from the Scopus database.
Note 3: The candidate's name is underlined and his contribution to the publication is specified: first author, last author, corresponding author, co-first, co-last and co-corresponding author.

1. Spizzichino, S., Boi, D., Boumis, G., Lucchi, R., Liberati, F.R., Capelli, D., Montanari, R., Pochetti, G, Piacentini, R., Parisi., G., Paone, A., Rinaldo, S., Contestabile, R., Tramonti, A., Paiardini, A., Giardina, G., Cutruzzolà, F. (2021). Cytosolic localization and in vitro assembly of human de novo thymidylate synthesis complex FEBS J. *in press*. https://doi.org/10.1111/febs.16248. **IF (2020) = 5.542; n. cit. 0.**

2. Barile, A., Mills, P., Di Salvo, M.L., Graziani, C., Bunik, V., Clayton, P., Contestabile, R., Tramonti, A. (2021) Characterization of novel pathogenic variants causing pyridox(Am)ine 5′-phosphate oxidase-dependent epilepsy *Int. J. Mol. Sci.*, **22**(21): 12013. doi: 10.3390/ijms222112013. **IF (2020) = 5.924; n. cit. 0**. Co-corresponding author.

3. Tramonti, A., Cuyàs, E., Encinar, J. A., Pietzke, M., Paone, A., Verdura, S., Arbusà, A., Martin-Castillo, B., Giardina, G., Joven, J., Vazquez, A., Contestabile, R., Cutruzzolà, F. and Menendez, J. A. (2021) Metformin is a pyridoxal-5′-phosphate (PLP)-Competitive Inhibitor of SHMT2. *Cancers*, **13**(16): 4009. doi: 10.3390/cancers13164009. **IF (2020) = 6.639; n. cit. 0**

4. Tramonti, A., Contestabile, R., Florio, R., Nardella, C., Barile, A., di Salvo. M.L. (2021) A Novel, Easy Assay Method for Human Cysteine Sulfinic Acid Decarboxylase. *Life* (Basel), **11**(5):438. doi: 10.3390/life11050438. **IF (2020) = 3.817; n. cit. 0**. Co-first author

5. Barile, A., Battista, T., Fiorillo, A., di Salvo, M.L., Malatesta, F., Tramonti, A., Ilari, A., Contestabile, R. (2021) Identification and characterization of the pyridoxal 5'-phosphate allosteric site in *Escherichia coli* pyridoxine 5'-phosphate oxidase. *J Biol Chem*, **296**:100795. Published, Papers in Press. Epub 2021 May 18. doi: 10.1016/j.jbc.2021.100795. **IF (2020) = 5.157; n. cit. 0**. Last and corresponding author.

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