

**EUROPEAN
CURRICULUM VITAE
FORMAT**



PERSONAL INFORMATION

Name	BARBARA TAVAZZI
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Nationality	Italian
Date of Birth	
Gender	Female

WORK EXPERIENCE

2021 - present - Full Professor of Biochemistry, Scientific Disciplinary Sector (SSD) BIO/10 Biochemistry, Competition Sector (SC) 05/E1

UniCamillus - Saint Camillus International University of Health Sciences, Departmental Faculty of Medicine, Via di San Alessandro 8,00131 Rome

Main activities and responsibilities: research activity as group leader; academic teaching.

President of the Medicine and Surgery degree course

Rector Delegate for Internationalization

Area of expertise: Biochemistry, Clinical Biochemistry, Molecular Biology, Biomarkers determination, Metabolomics, Transcriptomics.

2003-2021 - Associate Professor of Biochemistry, SSD BIO/10 Biochemistry, Faculty of Medicine, Department of Basic Biotechnological Sciences, Intensivology and Perioperative Clinics, Section of Biochemistry. Catholic University of the Sacred Heart, Largo Francesco Vito 1, 00168 Rome

Main activities and responsibilities: research activity as group leader; academic teaching.

Area of expertise: Molecular Biomarkers of human diseases, Molecular Biology with focus on Gene expression and regulation, Acute and chronic neurodegenerations.

2010 - present -Board of Reviewer member of MIUR for the evaluation of ministerial research programs for the following Sectors of the European Research Council: LS1_2-General biochemistry and metabolism; LS2_4-Metabolomics; LS5_3-Neurochemistry and Neuropharmacology.

2005 - 2021 - Functions of Director level 1, Operating Unit Analysis I (Clinical Chemistry), Area Diagnostic Laboratory and Infectious Diseases, Fondazione Policlinico Universitario A. Gemelli -IRCCS..

2000 - 2002 - Assistant Professor of Biochemistry (SSD BIO/10), Chair of Chemistry and Biochemical Propedeutics, Department of Experimental Medicine and Biochemical Sciences, Faculty of Medicine, University of Rome "Tor Vergata".

1991 - 2001 - Technical Officer, VIII Functional Qualification, at the Chair of Chemistry and Biochemical Propedeutics, Department of Experimental Medicine and Biochemical Sciences, Faculty of Medicine, University of Rome "Tor Vergata".

EDUCATION AND TRAINING

- 1991 -Title of PhD in Biochemistry discussing the thesis entitled: "Effect of exogenous fructose-1,6-bisphosphate on isolated rat heart under different perfusion conditions".
Vote: EXCELLENT

1988 – 1991- Research activity as PhD student in Biochemistry at the Department of Experimental Medicine and Biochemical Sciences, University of Rome "Tor Vergata"

1987 - Graduation to Professional Biologist

1986 - Practical-experimental training at the Hospital "S. Sebastiano" of Frascati, in the Laboratory of Clinical Analysis.

1985 - Bachelor's Degree in Biological Sciences, Faculty of Mathematical, Physical and Natural Sciences, University of Rome "La Sapienza" discussing the experimental thesis entitled: "The differentiation of neuromuscular junctions in mammals".

1982 – 1984 -Internal student at the laboratory of Histology of the Institute of Physiology, University of Rome "La Sapienza".

1978 - Classical high school

MOTHER LANGUAGE

ITALIAN

OTHER LANGUAGE

ENGLISH

- Reading ability
- Writing skills
- Oral expression skills

C1

C1

C1

ORGANIZATIONAL SKILLS AND COMPETENCES

Excellent communication skills gained in academic teaching and scientific dissemination. Leadership: currently coordinating a research team composed by early-stage researchers, PhD students, undergrad students

Project leadership: PI in National and International Research Projects.

Teaching coordination in MD and in Bachelor Degree Courses

1998 - Research unit component - C.N.R. finalized project: "Biotechnologies: interrelationships, and possible modulation, between senescence, environmental stress and molecular damage induced by oxygen radicals of plant organisms of agro-food interest.

1998 - 2000 - Responsible for the research project of the Ministry of Labour And Social Security for the realization of studies and research in the disciplines of accident prevention and social medicine, research n. 1049: "Evaluation and mechanism of cellular

damage induced by chronic exposure to heavy metals in experimental animals and industrial workers".

2000 - Responsible for the young researchers' project MIUR (MINISTRY OF UNIVERSITY AND RESEARCH) "Evaluation of the antioxidant effect of cyanidin-3-O-beta-glucopyranoside in different experimental models of molecular damage induced by radical oxygen species".

2001 - 2003 – Unit manager of the PRIN project (Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale; MIUR): n. 2001055984_002 "Effect of amifostine on cardiotoxicity and mechanisms of apoptosis induced by traditional and liposomal anthracycline anticancer drugs. study on lipid peroxidation and energy metabolism of isolated rat heart, and energy and deoxyribonucleotide metabolism of cultured human tumor lines and non-tumor cells from animal tissues." (24 months).

2003 - 2005 - Component of operating unit of PRIN project (Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale; MIUR): n. 2003058409_003 "Carnosinase metalloproteinase activity and its modulation in isolated cellular systems and in models of premature brain aging in experimental animals" (24 months)

2003 - 2021 – Annual funding for research, (D1) Catholic University of Rome, funded by University Research Funds (MIUR-EX 60%).

2007 - 2009 - Scientific responsible of the research unit PRIN project - (Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale; MIUR): n. 2007jhbz5f_002 "gene expression and biochemical and metabolic modifications in experimental models of mild traumatic brain injury" (duration 24 months).

2017 - present - Research funding obtained from Neuregenix Ltd, Edgbaston, Birmingham (Uk) for the following projects:

- "TM-6: investigating effects of a tikomed compound on tbi metabolites".
- Study of the effects of the administration of different concentrations of the ILB compound (dextran sulfate derivative) on cerebral metabolic disorders induced by a diffuse traumatic brain injury in the experimental animal model
- ILB-15: measuring targeted biomarkers in serum of patients with ALS".

2011 - 2019 - Participation in an academic spin-off of the University of Catania (proposer Prof. G. Lazzarino) approved on November 15, 2011. The spin-off gave rise to the company "LTABiotech srl" (established on 15-12-2011) which deals with analysis of biochemical and clinical biochemical interest with high technological content.

2015 - Activity of External Auditor for research projects Joint Projects 2015, University of Verona.

2018 - present - Activity of External Reviewer for research projects of the Medical Council and Israel Sciences Foundation.

TECHNICAL SKILLS AND COMPETENCES

2021 - Continuing education and training course on the protection of laboratory animals in scientific research - Third Edition. Experimental Research Center Catholic University of Rome, UCSC - Rome - Certificate IAT

Holder of 4 PATENTS registered in Italy, with PCT approval.

EDITORIAL SKILLS

2018 - present - Member of the Editorial Board for the following international journals: Antioxidants (Basel) and MDPI (<https://www.mdpi.com/journal/editors>)

Served as Guest/associate Editor for the Special Issues of Antioxidants (Basel) Journal

- "Oxidative and Nitrosative Stress Related to Mitochondria Dysfunction in Traumatic Brain Injury"
- "Oxidative stress in Neurodegenerations"

Served as peer-reviewer for several international journals, including:

Analytical Biochemistry; Antioxidants (Basel); Antioxidant & Redox Signal; Biochimica Biophysica Acta; Journal of Biological Chemistry; British Journal of Sports Medicine; Clinical Biochemistry; International Journal of Molecular Sciences; Journal of the Science of Food and Agriculture; Molecular and Cellular Biochemistry; Nucleosides Nucleotides and Nucleic Acids; Journal of Neurochemistry; Journal of Neurotrauma, International Journal of Human Nutrition and Dietetics; Journal of Reproduction; BioMed Research International, Current Neuropharmacology.

SCIENTIFIC SKILLS AND COMPETENCES

Main interests of scientific research: aspects of tissue, cellular and molecular damage induced by oxygen free radicals and interrelationships with energy metabolism; and the study of biochemical-clinical diagnosis of patients affected by various rare and non-rare hereditary metabolic diseases. Specifically, research has focused on the following lines:

- Research of tissue and plasma biochemical "markers" for the correct evaluation of oxygen free radical (ROS) damage following ischemia and reperfusion phenomena, both in experimental animals and in humans.
- Energy metabolism, molecular mechanisms and biochemical evaluation of tissue damage induced by ischemia and reperfusion in the isolated rat heart; biochemical evaluation of possible pharmacological interventions
- Research of tissue and plasma biochemical markers for the proper evaluation of oxygen free radical (ROS) damage following ischemia and reperfusion phenomena, both in experimental animals and in humans.
- Energy metabolism, molecular mechanisms and biochemical evaluation of tissue damage induced by ischemia and reperfusion in the isolated rat heart; biochemical evaluation of possible pharmacological interventions.
- Energy metabolism, molecular mechanisms and biochemical evaluation of brain tissue damage in the anesthetized rat in different models of incomplete reversible cerebral ischemia and subsequent reperfusion.
- Research and development of new analytical methods by high-resolution liquid chromatography (HPLC) for the determination of the main products of energy metabolism and cellular oxidoreductive state.
- Study of the mechanisms of initiation, propagation and termination of lipid peroxidation reactions induced by ROS and interaction of "scavenger" substances with these processes on in vitro model systems.
- Study of the effect of ROS on different cell lines, and evaluation of the antioxidant activity of natural and synthetic compounds in different experimental models in vivo and in vitro.
- Biochemical evaluation of viral infection and antiviral drugs on nucleotide and deoxynucleotide metabolism of different isolated cell lines.
- Energy metabolism, molecular and biochemical mechanisms of brain tissue damage in an experimental animal model of mild and severe traumatic brain injury (TBI); study of severe traumatic brain injury in humans by biochemical analysis of cerebrospinal fluid and cerebral microdialysis.
- Research and development of new analytical methods by means of high resolution liquid chromatography (HPLC) for the determination of the main products of cellular metabolism of genetic diseases related to metabolic alterations of purines, pyrimidines, N-acetylated amino acids and carboxylic acids.
- Study of the biochemical-clinical and molecular diagnosis of patients affected by various rare and non-rare hereditary metabolic diseases, for the screening of populations and for the monitoring of patients affected by acute and chronic pathological states.

- Study of the diagnosis and metabolic-biochemical evaluation of the chronic neurodegenerative disease Multiple Sclerosis, with particular attention to the search for circulating biomarkers in the blood. In particular, an algorithm for a Biomarker Score (panel of nine metabolites) has been created for the diagnosis and/or prognosis in vitro of Multiple Sclerosis (MS), valid also for the identification of phenotypes characterizing MS and its degree of progression.
- Metabolomic study of the human infertility (male and female) by biochemical and molecular analyses. In particular, the study is focused on the low-molecular weight compounds in human seminal plasma as potential biomarkers of male infertility, and on the altered follicular fluid metabolic pattern relates with female infertility.

As personal results of both the ASSESSMENT OF QUALITY OF RESEARCH (VQR) 2004-2010 and 2011-2016, for all products presented has obtained an evaluation of 1 = EXCELLENT.

The research activity carried out has resulted in: 167 publications on International Journals (in extenso, with high value of Impact Factor and belonging to the quartiles Q1 and Q2) and National Journals (in extenso, with impact factor)

- 10 chapters of international books (with ISBN and DOI);
- 78 abstracts of Congresses published on International Journals.
- more than 180 abstracts of papers presented, both as speaker and poster, at National and International Congresses.

OTHER SKILLS AND COMPETENCES

BIBLIOMETRIC INDICES:

SCOPUS	official H index: 41	TOTAL CITATIONS: 5.477
Web Of Sciences	official H index: 41	TOTAL CITATIONS: 5.232

Member of the Italian Society of Biochemistry and Molecular Biology (SIB)

Member of the Society for Free Radical Research International (SFRR)

ADDITIONAL INFORMATION

Scopus author Id: 7003715133
Web of Science Researcher ID: AAB-9830-2019
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According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV

