

TOMMASO ANGELONE

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Curriculum Studiorum

- 2001: Doctor Degree in Pharmaceutic Chemistry and Technology at the Faculty of Pharmacy, University of Calabria (UNICAL), Cosenza (Italy).
- 2005: PhD in “Animal Biology”(Cardiovascular Physiology) at University of Calabria – Cosenza (Italy).
- 2005: European PhD in “Molecular and Cellular Aspects of Biology” at INSERM575 Physiopathology of Nervous System, University Louis Pasteur-Strasbourg, France.
- 2008: Researcher (SSD BIO/09) in Physiology at the Faculty of Science, University of Calabria, Cosenza-Italy
- 2014: Associate Professor (SSD BIO/09) in Physiology, University of Calabria, Cosenza-Italy
- 2017: National Scientific Qualification to Full Professor in Physiology (SSD BIO/09)

Academic Career

- Present position: Associate Professor (SSD BIO/09; Physiology) at Dept. Biology, Ecology and E.S. (DiBEST), University of Calabria, Cosenza-Italy
- Scientific director of the Lab. of Cardiovascular Patho-Physiology (DiBEST-UNICAL).
- Vice Coordinator of the Doctorate Fellowship in Life Sciences- UNICAL
- Member of the “Presidio di Qualità (PQA)” for teaching and research - UNICAL
- President of the Board for Experimental Animal Care (“Organismo Preposto al Benessere Animale”) (DiBEST-UNICAL)
- Supervisor for Animal Enclosure of DiBEST-UNICAL
- Member of Scientific Board of National Institute of Cardiovascular Research (BO), Italy
- Member of Scientific Board of Italian Society of Cardiovascular Research

Referee and Editor Activities

Editorial activity:

- Co-Editor of the Special Volume “**Chromogranin A and its Derived Peptides in Health and Disease**”. *Current Medicinal Chemistry* **2012**, 19, 24.
- Editor of the volume “**Chromogranins: from Cell Biology to Physiology and Biomedicine**”. Unipa Springer Series (Springer Verlag) 2017.
- Co-Editor for *Current Medicinal Chemistry* for the Special Issue “**Mechanisms, and pathophysiology of obesity: upgrading a complex scenario**”. 2018 In preparation.

Associate Editor for:

- 1) Frontiers in Physiology: Section Vascular Physiology
- 2) Plos One
- 3) Journal of Clinical Medicine

Review Editor for:

- 1) Frontiers in Physiology: Section Cellular Biochemistry
- 2) Frontiers in Physiology: Section Cellular Neuroscience Archive
- 3) Frontiers in Physiology: Section Cellular Neurophysiology
- 4) Frontiers in Physiology: Section Oxidant Physiology

Reviewer for several International Journal (ISI), such as:

Reviewer for VQR 2011-2014, Journal of Cellular Physiology, Frontiers in Physiology, Frontiers in Cellular Neuroscience, Translational Research, Oncotarget, Journal of Molecular & Cellular Cardiology, Journal of Molecular & Cellular Medicine, Plos One, Nutrition, Metabolism and Cardiovascular Diseases, Journal of Nutritional Biochemistry, Journal of Cellular Biochemistry, Journal Pharmacological Experimental Therapeutics, Current Medicinal Chemistry, Biomarkers in Medicine, Nutrition Research, Metabolism, Pharmacological Research, Biomedicine & Pharmacotherapy

-Reviewer for National and International research Projects

-Referee for national and international Doctoral Thesis.

Tutor for PhD students of Doctorate in Life Sciences, for postdoctoral positions and director of several research fellowship at UNICAL

Main Research Interest

Neurohumoral control of the cardiac performance of mammals with focus on the activity, cardioprotection and the signal transduction pathway of: i) **Chromogranin-A** and its derived peptides; ii) **Selenoprotein T** and a synthetic derived peptide (43-52) iii) **Nitric oxide and nitrite**; iv) **Adrenergic stimulation**; v) **Heart and nutrition**; vi) Cardiomodulation and cardioprotection elicited by hormones involved in the alimentary behaviour (e.g. **Glucagon-like peptide 2, Nesfatin-1, Phoenixin-14**) e by food-derived natural substances (e.g. **red wine polyphenols, olive-oil extracts**). Researches are carried out by using innovative methods of physiological investigation at organ and cellular and molecular levels, such as the perfusion of organs by a digitalized Langendorff apparatus, cultures of cardiomyocytes and endothelial cells, molecular biology techniques such as western blotting, immunoprecipitation, PCR, ELISA, Biotin Switch, receptor binding assay, Immunocytochemistry analysis, HPLC and Mass Spectrometry. Experimental models: rat fed with different high fat diets; spontaneously hypertensive rats and/or on rats with heart failure, and on chronically treated with heart failure stimulators (such as isoproterenol, doxorubicin).

Prof. Angelone's research is focused on the endocrine/paracrine/autocrine mechanisms which contribute to regulate cardiac performance at cellular, tissue and organ level, with particular regard to the role of Nitric Oxide and its transduction mechanisms. Results have enlarged the knowledge on the circuits which sustain cardiac homeostasis under normal condition and in the presence of physiopathologic stress, with notable biomedical relevance. In particular, Prof. Angelone's research described the cardioactivity elicited by Chromogranin-A (CGA)-derived peptides. Moreover, Prof. Angelone observed that this protein precursor is present in the human hypertrophic and dilated ventricular myocardium, where it co-localizes with BNP. Moreover, he found that, at cardiac level, this protein is cleaved into bioactive fragments. These peptides protect the myocardium like ischemic pre and post-conditioning. Since in chronic heart failure circulating CgA increases depending on the severity of the disease, also being an independent prognostic indicator of mortality, results on CgA fragments are of notable basic and biomedical-clinical interest.

Recent Projects

- **Since 2019: Coordinator** of the Research Project:, "**Proof of Concept**", Ministero dell'istruzione, dell'università e della ricerca di cui al D.D. n. 467 del 02.03.2018, Area: Salute. Project code: POC01_00049
- **Since 2019: Coordinator** of the Research Program "**Progetto Vinci**" (as Director of Thesis) for co-tutorship with the INSERM U1239 on Selenoprotein T and metabolism.
- **Since 2019:** Responsible of the Research Program for 1 RTDa position_ Project: Azione I.2 "Attrazione e Mobilità dei Ricercatori" n°AIM1829227 – 2.
- **2017:** Participation to the Research Program **POR ASSE I** –n° J88C17000370006.
- **2016: Coordinator** of the Research Project within the Italian-French cooperation "**Progetto Galileo**" (Prot.71/2016 n°G16-2) with University of Rouen (Francia), Inserm U982 that includes an co-tutorship doctorate program.
- **2016:** Participation to the Research Program **PON:** "HEARTDRIVE: Servizi avanzati per una più efficace ed efficiente gestione clinica integrata dello Scompenso Cardiaco e delle sue principali comorbilità"
- **From 2011 to 2015:** Participation to the Research Program **PON01_00937:** "Modelli sperimentali Biotecnologici integrati per lo sviluppo e la selezione di molecole di interesse per la salute dell'uomo"
- **From 2011 to 2016:** Participation to the Research Program **PON01_00293:** "Sviluppo di nuovi processi tecnologici per la produzione di emulsioni innovative a base d'olio d'oliva biologico a consistenza controllata (Spread Bio-oil)"
- **From 2014 to 2017:** Participation to the Research Program "**Progetto Vinci**" (as Director of Thesis) for co-tutorship with the INSERM U1121, Biomatériaux et Bioingénieur , Strasbourg (France).
- **From 2014 to 2016: Coordinator** of the Research Program "PROGRAMMA DI INTERVENTO PO CALABRIA FSE 2007/2013 – ASSE IV – OBIETTIVO OPERATIVO M2 ASSEgni DI RICERCA UNIONE

EUROPEA “ARUE” that includes an Italian-USA cooperation (Prof. SK Mahata, University of California, San Diego USA).

Patents

- International Patent Pub. No.: WO/2019/068682
International application No.: PCT/EP2018/076735
Publication Date: 11/04/2019
International Filing Date: 02/10/2018
Priority Data: 17306319.9 03/10/2017 EP
Title: Selenoprotein T 43-52 as cardioprotector
Section: Methods and pharmaceutical composition for providing cardioprotection in subjects who experienced a myocardial infarction
Inventors: **Tommaso ANGELONE**, Youssef ANOUAR, Carmine ROCCA & Loubna BOUKHZAR
- European Patent No.: 18197925.3
Priority Data: 01/10/18
Title: Chromogranin A protects rats from doxorubicin-induced cardiotoxicity
Inventors: **Tommaso ANGELONE**, Bruno TOTA & Angelo CORTI

Collaborations

Prof. Angelone research is carried out in collaboration with many national and international laboratories. Researches on CgA and its derived peptides are carried out in collaboration with San Raffaele Institute (DIBIT, Milan, **Prof. A. Corti**), with Dep. of Medicine and Molecular Genetic Center (Univ. California, San Diego: **Prof. S. Mahata**), Cell Neurobiology Section (NIH, USA: **Dr. P. Loh**), Institute for Nervous System Physiopathology INSERM (Strasbourg, France: **Prof. M.-H. Metz-Boutigue**), Inserm U982 (Univ. Rouen: **Dr. Y. Anouar**). Researches on ischemic cardioprotection are carried out in collaboration with sono Dept. Of Clinical and Biological Sciences (Univ. Turin, Italy: **Prof. P. Pagliaro and Prof. C. Penna**) e with Dept. Of Life Sciences and System Biology (Univ. Turin: **Prof. G. Alloatti and Prof. M.P. Gallo**). Research on Nitrite is in collaboration with Prof. Mark Gladwin (NHL, USA).

Meetings

Participation:

Since 2003: participation to several National and International Meetings (oral/poster presentation and Invited speaker)

Organization:

2017: Member of the Scientific Board for XXI Congresso Nazionale della Società Italiana di Ricerche Cardiovascolari, Imola, 16-18 November

2016: Member of the Scientific Board for III Workshop “New Roads in Cardiovascular Research”, Genova, 18 June

2015: Member of the Scientific Board for XX Congresso Nazionale della Società Italiana di Ricerche Cardiovascolari” Imola, 26-28 November
2014: Member of the Scientific Board for II Workshop “New Roads in Cardiovascular Research”, Pisa, 13 October
2013: Member of the Scientific Board for XIX Congresso Nazionale della Società Italiana di Ricerche Cardiovascolari” Imola, 17-18 October
2012: Member of the Scientific Board for I Workshop “New Roads in Cardiovascular Research”, Milan, 23-24 November
2011: Member of the Scientific Board for XVIII Congresso Nazionale della Società Italiana di Ricerche Cardiovascolari” Imola, 21-22 October
2011: Organization, in collaboration with Prof. Tota, of the 7th International Meeting on Chromogranin A and its derived-peptides” Capri (Naples, Italy) April 26-28

Publications: <http://orcid.org/0000-0001-7797-7862>

Prof. Angelone is co-author of 77 full papers (ISI Journals) and of ~150 in Proceedings and Meeting Participations.

Most recent five publications:

1. Rocca C, Pasqua T, Boukhzar L, Anouar Y, **Angelone T**. Progress in the emerging role of selenoproteins in cardiovascular disease: focus on endoplasmic reticulum-resident selenoproteins. *Cell Mol Life Sci*. 2019 Jun 19. doi: 10.1007/s00018-019-03195-1.
2. Rocca C, Scavello F, Colombo B, GasparriPasqua T, Cerra MC, Tota B, Corti A, **Angelone T**. Physiological levels of chromogranin A prevent doxorubicin-induced cardiotoxicity without impairing its anticancer activity. *FASEB J*. 2019 Jun;33(6):7734-7747. doi: 10.1096/fj.201802707R.
3. Rocca C, Boukhzar L, Granieri MC, Alsharif I, Leprince J, Cerra MC, Anouar Y, **Angelone T**. A selenoprotein T-derived peptide protects the heart against ischaemia/reperfusion injury through inhibition of apoptosis and oxidative stress. *Acta Physiol (Oxf)*. 2018 Aug;223(4):e13067. doi: 10.1111/apha.13067
4. Rocca C, Scavello F, Granieri MC, Pasqua T, ...Mazza R, Cerra MC, **Angelone T**. Phoenixin-14: detection and novel physiological implications in cardiac modulation and cardioprotection. *Cell Mol Life Sci*. 2018 Feb;75(4):743-756. doi: 10.1007/s00018-017-2661-3.
5. De Francesco EM, Rocca C, Scavello Cirillo F, Amodio N, Cerra MC, Maggiolini M, **Angelone T**. Protective Role of GPER Agonist G-1 on Cardiotoxicity Induced by Doxorubicin. *J Cell Physiol*. 2017 Jul;232(7):1640-1649. doi: 10.1002/jcp.25585.