

Curriculum vitae
Prof Claudia Penna

Personal details

Born in Asti, Italy
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Educations

1991 Degree in Biology, University of Turin
1995 Clinic Pathology Specialist, University of Turin
2000 Ph.D. in Physiology (Cardiovascular physiology curriculum), University of Turin

Professional experiences and current position

2006 Research Fellow in Physiology (SSD BIO/09), Medicine and Surgery University of Turin
2014 Associated Professor, Physiology (SSD BIO/09), Medicine and Surgery University of Turin
2021 Full Professor, Physiology (SSD BIO/09), Medicine and Surgery University of Turin

Teaching activity:

Physiology at Medicine and Surgery and Nursing Schools

Research main topics

Cardiovascular System & Cardiology Physiology.

Main projects as PI:

Cardioprotection against ischemia/reperfusion injury

Bibliometry (***-present) (www.scopus.com)**

4659 Citations by 3414 documents
140 Documents
40 h-index

publications (last five years)

- 1: Russo I, Barale C, Melchionda E, **Penna C**, Pagliaro P. Platelets and Cardioprotection: The Role of Nitric Oxide and Carbon Oxide. Int J Mol Sci. 2023 Mar 24;24(7):6107.
- 2: Uberti F, Trotta F, Pagliaro P, Bisericaru DM, Cavalli R, Ferrari S, **Penna C**, Matencio A. Developing New Cyclodextrin-Based Nanosponges Complexes to Improve Vitamin D Absorption in an In Vitro Study. Int J Mol Sci. 2023 Mar 10;24(6):5322.
- 3: Comità S, Rubeo C, Giordano M, **Penna C**, Pagliaro P. Pathways for Cardioprotection in

- Perspective: Focus on Remote Conditioning and Extracellular Vesicles. *Biology (Basel)*. 2023 Feb 14;12(2):308.
- 4: Mercurio V, Kaludercic N, Paolocci N, **Penna C**. Editorial: Cardioprotection, sex and gender differences. *Front Physiol*. 2022 Aug 31;13:940058.
- 5: Alloatti G, **Penna C**, Comità S, Tullio F, Aragno M, Biasi F, Pagliaro P. Aging, sex and NLRP3 inflammasome in cardiac ischaemic disease. *Vascul Pharmacol*. 2022 Aug;145:107001.
- 6: **Penna C**, Comità S, Tullio F, Alloatti G, Pagliaro P. Challenges facing the clinical translation of cardioprotection: 35 years after the discovery of ischemic preconditioning. *Vascul Pharmacol*. 2022 Jun;144:106995.
- 7: Ruga S, Galla R, **Penna C**, Molinari C, Uberti F. The Activity of Ten Natural Extracts Combined in a Unique Blend to Maintain Cholesterol Homeostasis-In Vitro Model. *Int J Mol Sci*. 2022 Mar 30;23(7):3805.
- 8: **Penna C**, Sorge M, Tullio F, Comità S, Femminò S, Brancaccio M, Pagliaro P. A TRICK to Improve the Effectiveness of RIC: Role of Limb Temperature in Enhancing the Effectiveness of Remote Ischemic Conditioning. *Biology (Basel)*. 2022 Jan 17;11(1):146.
- 9: **Penna C**, Trotta F, Cavalli R, Pagliaro P. Nanocarriers Loaded with Oxygen to Improve the Protection of the Heart to be Transplanted. *Curr Pharm Des*. 2022;28(6):468-470.
- 10: Comità S, Femmino S, Thairi C, Alloatti G, Boengler K, Pagliaro P, **Penna C**. Regulation of STAT3 and its role in cardioprotection by conditioning: focus on non-genomic roles targeting mitochondrial function. *Basic Res Cardiol*. 2021 Oct 12;116(1):56.
- 11: Femminò S, D'Ascenzo F, Ravera F, Comità S, Angelini F, Caccioppo A, Franchin L, Grosso A, Thairi C, Venturelli E, Cavallari C, **Penna C**, De Ferrari GM, Camussi G, Pagliaro P, Brizzi MF. Percutaneous Coronary Intervention (PCI) Reprograms Circulating Extracellular Vesicles from ACS Patients Impairing Their Cardio-Protective Properties. *Int J Mol Sci*. 2021 Sep 24;22(19):10270.
- 12: Querio G, Antoniotti S, Geddo F, Tullio F, **Penna C**, Pagliaro P, Gallo MP. Ischemic heart disease and cardioprotection: Focus on estrogenic hormonal setting and microvascular health. *Vascul Pharmacol*. 2021 Dec;141:106921.
- 13: D'Ascenzo F, Femminò S, Ravera F, Angelini F, Caccioppo A, Franchin L, Grosso A, Comità S, Cavallari C, **Penna C**, De Ferrari GM, Camussi G, Pagliaro P, Brizzi MF. Extracellular vesicles from patients with Acute Coronary Syndrome impact on ischemia-reperfusion injury. *Pharmacol Res*. 2021 Aug;170:105715.
- 14: Pagliaro P, Thairi C, Alloatti G, **Penna C**. Angiotensin-converting enzyme 2: a key enzyme in key organs. *J Cardiovasc Med (Hagerstown)*. 2022 Jan 1;23(1):1-11.
- 15: Querio G, Geddo F, Antoniotti S, Gallo MP, **Penna C**. Sex and Response to Cardioprotective Conditioning Maneuvers. *Front Physiol*. 2021 May 14;12:667961.
- 16: Alfi E, Thairi C, Femminò S, Alloatti G, Moccia F, Brizzi MF, Pagliaro P, **Penna C**. Extracellular vesicles (EVs) in ischemic conditioning and angiogenesis: Focus on endothelial derived EVs. *Vascul Pharmacol*. 2021 Oct;140:106873.
- 17: **Penna C**, Femminò S, Caldera F, Rubin Pedrazzo A, Ceccone C, Alfi E, Comità S, Higashiyama T, Trotta F, Pagliaro P, Cavalli R. Cyclic Nigerosyl-Nigerose as Oxygen Nanocarrier to Protect

Cellular Models from Hypoxia/Reoxygenation Injury: Implications from an In Vitro Model. *Int J Mol Sci.* 2021 Apr 19;22(8):4208.

18: Lionetti V, Bollini S, Coppini R, Gerbino A, Ghigo A, Iaccarino G, Madonna R, Mangiacapra F, Miragoli M, Moccia F, Munaron L, Pagliaro P, Parenti A, Pasqua T, **Penna C**, Quaini F, Rocca C, Samaja M, Sartiani L, Soda T, Tocchetti CG, Angelone T. Understanding the heart-brain axis response in COVID-19 patients: A suggestive perspective for therapeutic development. *Pharmacol Res.* 2021 Jun;168:105581.

19: **Penna C**, Femminò S, Alloatti G, Brizzi MF, Angelone T, Pagliaro P. Extracellular Vesicles in Comorbidities Associated with Ischaemic Heart Disease: Focus on Sex, an Overlooked Factor. *J Clin Med.* 2021 Jan 17;10(2):327.

20: **Penna C**, Femminò S, Tapparo M, Lopatina T, Fladmark KE, Ravera F, Comità S, Alloatti G, Giusti I, Dolo V, Camussi G, Pagliaro P, Brizzi MF. The Inflammatory Cytokine IL-3 Hampers Cardioprotection Mediated by Endothelial Cell-Derived Extracellular Vesicles Possibly via Their Protein Cargo. *Cells.* 2020 Dec 23;10(1):13.

21: **Penna C**. Redox and Nitrosative Signaling and Stress. *Antioxidants (Basel).* 2020 Dec 7;9(12):1237.

22: Femminò S, **Penna C**, Margarita S, Comità S, Brizzi MF, Pagliaro P. Extracellular vesicles and cardiovascular system: Biomarkers and Cardioprotective Effectors. *Vascul Pharmacol.* 2020 Dec;135:106790.

23: **Penna C**, Aragno M, Cento AS, Femminò S, Russo I, Bello FD, Chiazza F, Collotta D, Alves GF, Bertinaria M, Zicola E, Mercurio V, Medana C, Collino M, Pagliaro P. Ticagrelor Conditioning Effects Are Not Additive to Cardioprotection Induced by Direct NLRP3 Inflammasome Inhibition: Role of RISK, NLRP3, and Redox Cascades. *Oxid Med Cell Longev.* 2020 Aug 3;2020:9219825.

24: Mercurio V, Cuomo A, Cadeddu Dessalvi C, Deidda M, Di Lisi D, Novo G, Manganaro R, Zito C, Santoro C, Ameri P, Spallarossa P, Arboscello E, Tocchetti CG, **Penna C**. Redox Imbalances in Ageing and Metabolic Alterations: Implications in Cancer and Cardiac Diseases. An Overview from the Working Group of Cardiotoxicity and Cardioprotection of the Italian Society of Cardiology (SIC). *Antioxidants (Basel).* 2020 Jul 21;9(7):641.

25: **Penna C**, Mercurio V, Tocchetti CG, Pagliaro P. Sex-related differences in COVID-19 lethality. *Br J Pharmacol.* 2020 Oct;177(19):4375-4385.

26: Pagliaro P, **Penna C**. ACE/ACE2 Ratio: A Key Also in 2019 Coronavirus Disease (Covid-19)? *Front Med (Lausanne).* 2020 Jun 18;7:335.

27: Moccia F, Gerbino A, Lionetti V, Miragoli M, Munaron LM, Pagliaro P, Pasqua T, **Penna C**, Rocca C, Samaja M, Angelone T. COVID-19-associated cardiovascular morbidity in older adults: a position paper from the Italian Society of Cardiovascular Researches. *Geroscience.* 2020 Aug;42(4):1021-1049.

28: Crisafulli A, Pagliaro P, Roberto S, Cugusi L, Mercurio G, Lazou A, Beauloye C, Bertrand L, Hausenloy DJ, Aragno M, **Penna C**. Diabetic Cardiomyopathy and Ischemic Heart Disease: Prevention and Therapy by Exercise and Conditioning. *Int J Mol Sci.* 2020 Apr 21;21(8):2896.

29: **Penna C**, Andreadou I, Aragno M, Beauloye C, Bertrand L, Lazou A, Falcão- Pires I, Bell R, Zuurbier CJ, Pagliaro P, Hausenloy DJ. Effect of hyperglycaemia and diabetes on acute myocardial ischaemia-reperfusion injury and cardioprotection by ischaemic conditioning protocols. *Br J*

Pharmacol. 2020 Dec;177(23):5312-5335.

30: **Penna C**, Alloatti G, Crisafulli A. Mechanisms Involved in Cardioprotection Induced by Physical Exercise. *Antioxid Redox Signal*. 2020 May 20;32(15):1115-1134.

31: Cadeddu Dessalvi C, Pepe A, **Penna C**, Gimelli A, Madonna R, Mele D, Monte I, Novo G, Nugara C, Zito C, Moslehi JJ, de Boer RA, Lyon AR, Tocchetti CG, Mercurio G. Sex differences in anthracycline-induced cardiotoxicity: the benefits of estrogens. *Heart Fail Rev*. 2019 Nov;24(6):915-925.

32: Zacchigna S, Sartiani L, **Penna C**, Varricchi G, Tocchetti CG. Modulation of Redox Signaling in Chronic Diseases and Regenerative Medicine. *Oxid Med Cell Longev*. 2019 Apr 23;2019:6091587.

33: Femminò S, Pagliaro P, **Penna C**. Obesity and Cardioprotection. *Curr Med Chem*. 2020;27(2):230-239.

34: Davidson SM, Andreadou I, Barile L, Birnbaum Y, Cabrera-Fuentes HA, Cohen MV, Downey JM, Girao H, Pagliaro P, **Penna C**, Pernow J, Preissner KT, Ferdinandy P. Circulating blood cells and extracellular vesicles in acute cardioprotection. *Cardiovasc Res*. 2019 Jun 1;115(7):1156-1166.

35: Pasqua T, Pagliaro P, Rocca C, Angelone T, **Penna C**. Role of NLRP-3 Inflammasome in Hypertension: A Potential Therapeutic Target. *Curr Pharm Biotechnol*. 2018;19(9):708-714.

36: Russo I, Femminò S, Barale C, Tullio F, Geuna S, Cavalot F, Pagliaro P, **Penna C**. Cardioprotective Properties of Human Platelets Are Lost in Uncontrolled Diabetes Mellitus: A Study in Isolated Rat Hearts. *Front Physiol*. 2018 Jul 10;9:875.

37: Rocca C, Femminò S, Aquila G, Granieri MC, De Francesco EM, Pasqua T, Rigeracciolo DC, Fortini F, Cerra MC, Maggiolini M, Pagliaro P, Rizzo P, Angelone T, **Penna C**. Notch1 Mediates Preconditioning Protection Induced by GPER in Normotensive and Hypertensive Female Rat Hearts. *Front Physiol*. 2018 May 15;9:521.

38: Pagliaro P, **Penna C**. Editorial: Alteration of Redox Equilibrium, Inflammation and Progression of Disease. *Curr Med Chem*. 2018;25(11):1272-1274.

39: Pagliaro P, Femminò S, Popara J, **Penna C**. Mitochondria in Cardiac Postconditioning. *Front Physiol*. 2018 Mar 26;9:287.

40: **Penna C**, Sorge M, Femminò S, Pagliaro P, Brancaccio M. Redox Aspects of Chaperones in Cardiac Function. *Front Physiol*. 2018 Mar 16;9:216.

41: Femminò S, **Penna C**, Bessone F, Caldera F, Dhakar N, Cau D, Pagliaro P, Cavalli R, Trotta F. α -Cyclodextrin and α -Cyclodextrin Polymers as Oxygen Nanocarriers to Limit Hypoxia/Reoxygenation Injury: Implications from an In Vitro Model. *Polymers (Basel)*. 2018 Feb 22;10(2):211.

42: Mastrocola R, Aragno M, Alloatti G, Collino M, **Penna C**, Pagliaro P. Metaflammation: Tissue-Specific Alterations of the NLRP3 Inflammasome Platform in Metabolic Syndrome. *Curr Med Chem*. 2018;25(11):1294-1310.

43: Tocchetti CG, Cadeddu C, Di Lisi D, Femminò S, Madonna R, Mele D, Monte I, Novo G, **Penna C**, Pepe A, Spallarossa P, Varricchi G, Zito C, Pagliaro P, Mercurio G. From Molecular Mechanisms to Clinical Management of Antineoplastic Drug- Induced Cardiovascular Toxicity: A Translational Overview. *Antioxid Redox Signal*. 2019 Jun 20;30(18):2110-2153.