



**Prof. Dr. Rafael A. Radi Isola**  
**Professor and Chairman, Department of Biochemistry**



My primary research interests are in biomedicine and biochemistry, focusing on the molecular basis of disease and aging in humans. In particular, I concentrated research efforts in the areas on oxidative and nitric oxide metabolism, mitochondrial function, post-translational modification of proteins and mechanisms of cell degeneration and death, with a discovery path that involves interdisciplinary approaches. My contributions have unraveled molecular mechanisms of chronic diseases and assisted to the design and development of therapeutics. Also, my work has contributed to understand oxidative cellular immune responses to invading pathogens and revealed the role of microbial antioxidant systems as virulence factors.

---

*Ten selected publications from a total of 340, H-index = 95 (web of science)*

1. Piacenza L, Zeida A, Trujillo M, **Radi R**. The superoxide radical switch in the biology of nitric oxide and peroxynitrite. *Physiol Rev*. doi: 10.1152/physrev.00005.2022. Epub ahead of print. PMID: 35605280, 2022
2. Piacenza L, Trujillo M, **Radi R**. Reactive species and pathogen antioxidant networks during phagocytosis. *J Exp Med*. 4;216(3):501-516, 2019
3. **Radi R**. Oxygen Radicals, Nitric Oxide and Peroxynitrite: Redox Pathways in Molecular

- Medicine. *Proc Natl Acad Sci U S A*. 115(23):5839-5848, 2018
4. Ferrer-Sueta G, Campolo N, Trujillo M, Bartesaghi S, Romero N, Alvarez R and **Radi R**. Biochemistry of Peroxynitrite and Protein Tyrosine Nitration. *Chem. Rev.* 118(3):1338-1408, 2018
  5. Hannibal L, Tomasina F, Capdevila DA, Demicheli V, Tórtora V, Alvarez-Paggi D, Jemmerson R, Murgida DH, **Radi R**. Alternative Conformations of Cytochrome c: Structure, Function, and Detection. *Biochemistry*. 55(3):407-28, 2016.
  6. **Radi R**. Peroxynitrite, a stealthy biological oxidant. *J. Biol. Chem.* 13;288(37):26464-72. 2013
  7. Szabó C, Ischiropoulos H and **Radi R**. Peroxynitrite: biochemistry, pathophysiology and development of therapeutics. *Nature Reviews Drug Discovery*. 6: 662-680, 2007.
  8. **Radi R**. Nitric oxide, oxidants and protein tyrosine nitration. *Proc. Natl. Acad. Sci. USA*. 101, 4003-4008, 2004.
  9. **Radi R**, Peluffo G, Alvarez M N, Naviliat M and Cayota A. Unraveling peroxynitrite formation in biological systems. *Free Radical Biol Med*. 30, 463-488, 2001.
  10. **Radi R**, Beckman J S, Bush K M and Freeman B A. Peroxynitrite oxidation of sulfhydryls: the cytotoxic potential of superoxide and nitric oxide. *J. Biol. Chem.* 266: 4244-4250, 1991. [Selected as *JBC Classic*, Jan 2016]