

## **PROF. G. LAZZARINO - SHORT CV**

### **Biography**

Prof. Giuseppe Lazzarino has received his Degree in Biological Sciences at the State University of Rome "La Sapienza", Rome, Italy in 1979. In 1980 he joined an Italian pharmaceutical company, becoming head of the Biochemistry and Pharmacology Research Laboratory. In 1986 he became Researcher in Biochemistry at the University of Rome "Tor Vergata", Rome, Italy. Since 1994 he is Full Professor of Biochemistry at the School of Biology of the University of Catania, Catania, Italy (Department of Biomedical and Biotechnological Sciences, Division of Medical Biochemistry). During his career he collaborated with different national and international research groups carrying out research projects of common interest. Since the end of 2010 he established a spin-off company mainly aimed to evidence biochemical markers of clinical interests and to develop proper diagnostic kits, particularly dedicated to male infertility and neurodegenerations (multiple sclerosis), as well as to perform metabolic screenings of biological fluids for prenatal and postnatal diagnosis of IEM. He authored more than 130 papers (Scopus) in the field of biochemistry and, mostly, of translational medicine (neurotraumatology, cardiology, neurodegeneration, male infertility). He holds 8 patents.

### **Research interests**

Biochemistry, clinical biochemistry and translational medicine are the main areas of interest in our laboratory. In particular, we are interested in studying: 1) energy metabolism and free radical damage in animals and human beings; 2) biochemical and molecular mechanisms of cell damages in traumatic brain injury; 3) biochemical aspects of male infertility; 4) biochemical markers of clinical relevance in acute and chronic neurodegenerations, and in male and female infertilities; 5) set up of analytical methods for low molecular weight compounds in biological samples; 6) biochemical and molecular evaluation of IEM (inborn errors of metabolism).



## Full-Length Papers

1. Caruso G, Fresta CG, Fidilio A, O'Donnell F, Musso N, Lazzarino G, Grasso M, Amorini AM, Tascadda F, Bucolo C, Drago F, Tavazzi B, Lazzarino G, Lunte SM, Caraci F. Carnosine Decreases PMA-Induced Oxidative Stress and Inflammation in Murine Macrophages. *Antioxidants (Basel)*. 2019 Aug 6;8(8). pii: E281. doi: 10.3390/antiox8080281. **I.F. = 4.504**
2. Caruso G, Fresta CG, Grasso M, Santangelo R, Lazzarino G, Lunte SM, Caraci F. Inflammation as the common biological link between depression and cardiovascular diseases: Can carnosine exert a protective role? *Curr Med Chem*. 2019 doi: 10.2174/0929867326666190712091515. **I.F. = 3.894**
3. Musumeci G, Ravalli S, Amorini AM, Lazzarino G. Concussion in sports. *J Funct Morphol Kinesiol*. 2019; 4, 37; doi:10.3390/jfmk4020037.
4. Yakoub KM, Lazzarino G, Amorini AM, Caruso G, Scazzone C, Ciaccio M, Tavazzi B, Lazzarino G, Belli A, Di Pietro V. Fructose-1,6-Bisphosphate Protects Hippocampal Rat Slices from NMDA Excitotoxicity. *Int J Mol Sci*. 2019; 20, 2239; doi:10.3390/ijms20092239. **I.F. = 3.878**
5. Lazzarino G, Listorti I, Bilotta G, Capozzolo T, Amorini AM, Longo S, Caruso G, Lazzarino G, Tavazzi B, Bilotta P. Water- and Fat-Soluble Antioxidants in Human Seminal Plasma and Serum of Fertile Males. *Antioxidants (Basel)*. 2019 Apr 11;8(4). pii: E96. doi: 10.3390/antiox8040096. **I.F. = 4.504**
6. Caruso G, Fresta CG, Musso N, Giambirtone M, Grasso M, Spampinato SF, Merlo S, Drago F, Lazzarino G, Sortino MA, Lunte SM, Caraci F. Carnosine Prevents A $\beta$ -Induced Oxidative Stress and Inflammation in Microglial Cells: A Key Role of TGF- $\beta$ 1. *Cells*. 2019; doi: 10.3390/cells8010064. **I.F. = 4.829**
7. Caruso G, Fresta CG, Lazzarino G, Distefano DA, Parlascino P, Lunte SM, Lazzarino G, Caraci F. Sub-Toxic Human Amylin Fragment Concentrations Promote the Survival and Proliferation of SH-SY5Y Cells via the Release of VEGF and HspB5 from Endothelial RBE4 Cells. *Int J Mol Sci*. 2018; doi: 10.3390/ijms19113659. **I.F. = 3.878**
8. Lazzarino G, Listorti I, Muzii L, Amorini AM, Longo S, Di Stasio E, Caruso G, D'Urso S, Puglia I, Pisani G, Lazzarino G, Tavazzi B, Bilotta P. Low molecular weight compounds in human seminal plasma as potential biomarkers of male infertility. *Hum Repr*. 2018;33:1817-1828. **I.F. = 4.990**

9. Fresta CG, Chakraborty A, Wijesinghe MB, Amorini AM, Lazzarino G, Lazzarino G, Tavazzi B, Lunte SM, Caraci F, Dhar P, Caruso G. Non-toxic engineered carbon nanodiamond concentrations induce oxidative/nitrosative stress, imbalance of energy metabolism, and mitochondrial dysfunction in microglial and alveolar basal epithelial cells. *Cell Death Dis.* 2018;9:245. doi: 10.1038/s41419-018-0280-z. **I.F. = 5.965**
10. Lazzarino G, Longo S, Amorini AM, Di Pietro V, D'Urso S, Lazzarino G, Belli A, Tavazzi B. Single-step preparation of selected biological fluids for the high performance liquid chromatographic analysis of fat-soluble vitamins and antioxidants. *J Chromatogr A.* 2017;1527:43-52. **I.F. = 3.981**
11. Lazzarino G, Amorini AM, Petzold A, Gasperini C, Ruggieri S, Quartuccio ME, Lazzarino G, Di Stasio E, Tavazzi B. Serum Compounds of Energy Metabolism Impairment Are Related to Disability, Disease Course and Neuroimaging in Multiple Sclerosis. *Mol Neurobiol.* 2017;54:7520-7533 **I.F. = 5.397**
12. Di Pietro V, Lazzarino G, Amorini AM, Signoretti S, Hill LJ, Porto E, Tavazzi B, Lazzarino G, Belli A. Fusion or Fission: The Destiny of Mitochondria In Traumatic Brain Injury of Different Severities. *Sci Rep.* 2017;7(1):9189. doi: 10.1038/s41598-017-09587-2. **I.F. = 4.259**
13. Caruso G, Fresta CG, Martinez-Becerra F, Antonio L, Johnson RT, de Campos RP, Siegel JM, Wijesinghe MB, Lazzarino G, Lunte SM. Carnosine modulates nitric oxide in stimulated murine RAW 264.7 macrophages. *Mol Cell Biochem.* 2017;431:197-210.. **I.F. = 2.699**
14. Caruso G, Distefano DA, Parlascino P, Fresta CG, Lazzarino G, Lunte SM, Nicoletti VG. Receptor-mediated toxicity of human amylin fragment aggregated by short- and long-term incubations with copper ions. *Mol Cell Biochem.* 2017;425:85-93. **I.F. = 2.699**
15. Fresta CG, Hogard ML, Caruso G, Melo Costa,EE, Lazzarino G, Lunte SM. Monitoring carnosine uptake by RAW 264.7 macrophage cells using microchip electrophoresis with fluorescence detection. *Anal Met* 2017;9:402-408. **I.F. = 1.900**
16. Amorini AM, Lazzarino G, Di Pietro V, Signoretti S, Lazzarino G, Belli A, Tavazzi B. Severity of experimental traumatic brain injury modulates changes in concentrations of cerebral free amino acids. *J Cell Mol Med.* 2017;21:530-542. **I.F. = 4.938**
17. Barbagallo I, Vanella L, Distefano A, Nicolosi D, Maravigna A, Lazzarino G, Di Rosa M, Tibullo D, Acquaviva R, Li Volti G. *Moringa oleifera* Lam. improves lipid metabolism during adipogenic differentiation of human stem cells. *Eur Rev Med Pharmacol Sci.* 2016;20:5223-5232. **I.F. = 1.778**

18. Amorini AM, Lazzarino G, Di Pietro V, Signoretti S, Lazzarino G, Belli A, Tavazzi B. Metabolic, enzymatic and gene involvement in cerebral glucose dysmetabolism after traumatic brain injury. *Biochim Biophys Acta Mol Basis of Dis.* 2016;1862:679-687. **I.F. = 4.882**
19. Petzold A, Nijland PG, Balk LJ, Amorini AM, Lazzarino G, Wattjes MP, Gasperini C, van der Valk P, Tavazzi B, Lazzarino G, van Horssen J. Visual pathway neurodegeneration winged by mitochondrial dysfunction. *Ann Clin Transl Neurol.* 2015;2:140-150. **I.F. = 4.656**
20. Alberghina D, Piccione G, Amorini AM; Lazzarino G, Congiu F, Lazzarino G, Tavazzi B. Body temperature and plasma nitric oxid metabolites in response to standardized exercise test in the athletic horse. *J Eq Vet Sci.* 2015; doi/10.1016/j.jevs.2015.06.021. **I.F. = 0.871**
21. Di Pietro V, Amorini AM, Lazzarino G, Yakoub KM, D'Urso S, Lazzarino G, Belli A. S100B and Glial Fibrillary Acidic Protein as Indexes to Monitor Damage Severity in an In Vitro Model of Traumatic Brain Injury. *Neurochem Res.* 2015;40:991-999. **I.F. = 2.593**
22. Di Pietro V, Lazzarino G, Amorini AM, Tavazzi B, D'Urso S, Longo S, Vagnozzi R, Signoretti S, Clementi E, Giardina B, Lazzarino G, Belli A. Neuroglobin expression and oxidant/antioxidant balance after graded traumatic brain injury in the rat. *Free Radic Biol Med.* 2014;69:258-264. **I.F. = 5.736**
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26. Di Pietro V, Amorini AM, Tavazzi B, Vagnozzi R, Logan A, Lazzarino G, Signoretti S, Lazzarino G, Belli A. The molecular mechanisms affecting N-acetylaspartate homeostasis following experimental graded traumatic brain injury. *Mol Med.* 2014;20:147-157. **I.F. = 4.508**

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