

CURRICULUM VITAE

ANGELA MARINO

University of Messina, Italy

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Education and Training

1997. Degree in Biology, School of Sciences, University of Messina

1998. Post-degree training, Comparative Cell Physiology laboratory, University of Messina

1998-1999. Post-degree training, Tissue Typing Laboratory, "Bianchi-Melacrino-Morelli" Hospital, Reggio Calabria, Italy.

1999. Advanced University Degree in Parasitology, School of Medicine, University of Messina

1999. Professional Qualification in Biology

2001. Research fellowship: "Effects and action mechanisms of toxins from Mediterranean Coelenterata on tissues and isolated cells", Sponsor: Prof. G. La Spada, University of Messina

2002. Visiting Investigator, Laboratory of Cell Biology (Cardiovascular Physiology), University of Calabria.

2004. Qualification of "Expert in Physiology", School of Sciences, University of Messina

2004. Biophysics and Physiology School, "Skeletal Muscle", University of Padova.

2006. Biophysics and Physiology School, "Brain Imaging", University of Trieste.

2011. Visiting Scientist, Dept. of Pharmacology and Toxicology, Boonshoft School of Medicine, Wright State University, Dayton, OH, US, from 9 April to 4 July 2011.

2017. Visiting researcher presso Paracelsus Medizinische Privatuniversität, Salzburg (Austria), from 18 to 22 October 2017.

2017. National Scientific qualification (call 2016) (Academic Recruitment Field 05/D - Physiology, associate professor.

2021. National Scientific qualification (call 2021/2023) (Academic Recruitment Field 05/D - Physiology, full professor

Positions held

2006-2019. Researcher in Physiology, School of Sciences, University of Messina.

2008. Member of the Ph.D. program "Molecular Microbiology and Virology", University of Messina.

2009. Researcher in Physiology, confirmation, School of Sciences, XXV cycle, University of Messina

2011. Member of the Ph.D. program "Experimental Medicine", XXVII cycle, University of Messina

2013-pres. Member of the Ph.D. program "Applied Biology and Experimental Medicine", XXIX cycle to present, University of Messina.

2019-pres. Associated professor in Physiology, Department of Chemical, Biological, Pharmaceutical and Environmental Sciences, University of Messina). DR prot.n. 0134523, 31/12/2019.

Courses taught and other services

2003. Laboratory Assistant in Biology, University of Messina.

2004-pres. External Biology Assistant.

2006-2008 Scientific and Technological Assistant, University of Messina.

2006-pres. -Physiology Training Course, Biology degree (first level), University of Messina

-Neuro-Endocrine System Course, Biology degree (second level), University of Messina

-Physiological Adaptation Course, Biology degree (second level), University of Messina
 -Physiology Level II Course, Biology degree (second level), University of Messina
 -Nutrition Physiology Course, Biology degree (second level), University of Messina
2016 - Biology Course, tutor, according to the agreement between University of Messina and Liceo Scientifico statale "L. Da Vinci" Reggio Calabria
2019 Physiology Course, Medicine and Surgery degree, University of Messina
 Fisiologia Umana. CdS in Medicina e Chirurgia
2018-2021 Committee for Quality Monitoring of Biology course, University of Messina

2018. (26 January 2018) Member of Senato Accademico, Macro Area Scientifico Disciplinare "Scienze della Vita", to complete 2015-2018.
2018. Visiting Professor at Institute of Oral Biology, University of Oslo (Norway), from 29 to 31 May.
2018. (22 October 2018) Member of Senato Accademico, Macro Area Scientifico Disciplinare "Scienze della Vita", 2018-2021, until 30-12-2019.
2021. Coordinator of Degree Course "Biologia della Salute delle Tecnologie e della Nutrizione" - LM 6 , (D.R. prot 0125764 del 14/10/2021), until 30/09/2024.

PUBLICATIONS

Articles

1. La Spada, G., **Marino, A.**, Sorrenti, G., 2001: Anatomical and physiological characteristics of tentacular nematocytes isolated by different methods from *Aiptasia diaphana*. (Cnidaria: Anthozoa) in the brackish pond Faro (Messina, Italy). In: "Structures and processes in the mediterranean ecosystems", F. M. Faranda, L. Guglielmo & G. Spezie (Eds.). Springer Verlag, 297-303.
2. La Spada, G., **Marino, A.**, Sorrenti, G., Albiero, F., 2001: Morphological characteristics by SEM observations and regulatory volume decrease (RVD) of tentacular nematocytes isolated by heat dissociation from *Aiptasia diaphana* (Cnidaria: Anthozoa). *Cell. Mol. Biol.*, 47, n° 14, OL105-OL114.
3. La Spada, G., Sorrenti, G., Soffi, A., Montaleone, B., **Marino, A.**, Musci, G., 2002: Thiol-induced discharge of acontial nematocytes. *Comp. Biochem. Physiol. part B* 132: 367-373.
4. La Spada, G., **Marino, A.**, Sorrenti, G., 2002: *Pelagia noctiluca* "blooming" in the Strait of Messina: preliminary studies on the applicability of two methods for isolating nematocytes. *Marine Ecology*, 23 Supplement 1, 220-227.
5. **Marino, A.** and La Spada, G., 2004: Regulatory volume increase in nematocytes isolated from acontia of *Aiptasia diaphana* (Cnidaria, Anthozoa). *Cell. Mol. Biol.*, 50: OL533-OL542.
6. **Marino, A.**, Musci, G., La Spada, G., 2004: Hemolytic effects of crude venom from *Aiptasia mutabilis* nematocysts. *Chemistry and Ecology* 20, supplement 1: S451-459.
7. **Marino, A.**, Valveri, V., Crupi, R., Muià, C., Rizzo G., Musci, G., La Spada, G., 2004: Cytotoxicity of toxins from nematocysts of *Aiptasia mutabilis*. *Comp Biochem Physiol.* 139(4): 295-301.
8. **Marino, A.**, Crupi, R., Musci, G., La Spada, G. 2006. Morphological integrity and toxicological properties of *Pelagia noctiluca* (Scyphozoa) nematocysts. *Chemistry and Ecology*, 22, Supplement 1, S127-S131.
9. **Marino, A.** and La Spada, G. 2007. Calcium and cytoskeleton signaling during cell volume regulation in isolated nematocytes of *Aiptasia mutabilis* (Cnidaria: Anthozoa). *Comp. Biochem. Physiol Part A.* 147: 196-204.
10. **Marino, A.**, Crupi, R., Rizzo, G., Morabito, R., Musci, G. e La Spada, G. 2007. The unusual toxicity and stability properties of crude venom from isolated nematocysts of *Pelagia noctiluca* (Cnidaria, Scyphozoa). *Cell. Mol. Biol.*, 53: OL994-OL1002.

11. **Marino, A.**, Morabito, R., Pizzata, T., La Spada G. 2008. Effect of various factors on *Pelagia noctiluca* (Cnidaria, Scyphozoa) crude venom-induced haemolysis. *Comp. Biochem. Physiol.- part A*, 151: 144-149.
12. **Marino, A.**, Morabito, R., Pizzata, T., La Spada G. 2008. Effect of crude venom from nematocysts of *Pelagia noctiluca* (Scyphozoa) on spread discharge of acontia of *Calliactis parasitica* (Anthozoa). *Chemistry and Ecology*, 24 (1): 9-17.
13. **Marino, A.**, Morabito, R., La Spada, G. 2009. Factors altering the haemolytic power of crude venom from *Aiptasia mutabilis* (Anthozoa) nematocysts. *Comp. Biochem. Physiol. Part A* 152: 418-422.
14. **Marino, A.**, Di Paola, R., Crisafulli, C., Mazzon, E., Morabito, R., Paterniti, I., Galuppo, M., Genovese, T., La Spada, G., Cuzzocrea, S. 2009. Protective effect of melatonin against the inflammatory response elicited by crude venom from isolated nematocysts of *Pelagia noctiluca* (Cnidaria, Scyphozoa). *J Pineal Res.* 47(1):56-69. *Scopus*; WOS:000267706300007
15. Crupi, R., Mazzon, E., **Marino, A.**, La Spada, G., Bramanti, P., Cuzzocrea, S., Spina. E. 2010. Melatonin treatment mimics the antidepressant action in chronic-corticosterone treated mice. *J. Pineal Res.* 49(2):123-9. *Scopus 2-s2.0-77955167934*
16. **Marino, A.**, Morabito, R., La Spada, G., Adragna, N.C., Lauf, P.K. 2010. Mechanisms of Hyposmotic Volume Regulation in Isolated Nematocytes of the Anthozoan *Aiptasia diaphana*. *Cell Physiol Biochem.* 26: 209-218. *Scopus 2-s2.0-78049325980*; WOS:000281236400010
17. Crupi R., Mazzon E., **Marino A.**, La Spada G., Bramanti P., Battaglia F., Cuzzocrea S., Spina E. 2011. *Hypericum perforatum* treatment: effect on behaviour and neurogenesis in a chronic stress model in mice. *BMC Complementary and Alternative Medicine*, 11, 7. doi:10.1186/1472-6882-11-7. *Scopus 2-s2.0-79251553447*; WOS:000287477700001
18. R. Crupi, E. Mazzon, **A. Marino**, G. La Spada, P. Bramanti, E. Spina and S. Cuzzocrea. 2011. Melatonin's stimulatory effect on adult hippocampal neurogenesis in mice persists after ovariectomy. *J Pineal Res.* 2011 Oct;51(3):353-60. doi: 10.1111/j.1600-079X.2011.00897.x. *Scopus 2-s2.0-80053215337*; WOS:000295092400011
19. R. Crupi, **A. Marino** and S. Cuzzocrea. 2011. New therapeutic strategy for mood disorders. *Current Medicinal Chemistry.* 18: 4284-4298. *Scopus 2-s2.0-80052929553*, WOS:000298838000002
20. **Marino A.**, Morabito R, La Spada G, Adragna NC, Lauf PK. 2011. Evidence for aquaporin-mediated water transport in nematocytes of the jellyfish *Pelagia noctiluca*. *Cell Physiol Biochem.* 28: 1211-1218. *scopus 2-s2.0-83755182875*; WOS:000298490200015
21. Morabito R., **Marino A.**, La Spada G. 2012. Nematocytes activation in *Pelagia noctiluca* (Cnidaria, Scyphozoa) oral arms. *J Comp Physiol A Neuroethol Sens Neural Behav Physiol.* 198(6):419-26. DOI: 10.1007/s00359-012-0720-7 *scopus 2-s2.0-84861456499*; WOS:000304352500003
22. Morabito R, Condello S, Currò M, **Marino A.**, Ientile R, La Spada G. 2012. Oxidative stress induced by crude venom from the jellyfish *Pelagia noctiluca* in neuronal-like differentiated SH-SY5Y cells. *Toxicol in Vitro.* Vol 26, (5):694-699. DOI: 10.1016/j.tiv.2012.03.002. *scopus 2-s2.0-84861530643*; WOS:000305675500007
23. Ahmad, A., Crupi R., Impellizzeri D., Campolo M., **Marino A.**, Esposito E., Cuzzocrea S. 2012. Administration of palmitoylethanolamide (PEA) protects the neurovascular unit and reduces secondary injury after traumatic brain injury in mice. *Brain Behav. Immun.* 26(8):1310-21, doi: 10.1016/j.bbi.2012.07.021. *scopus 2-s2.0-84867217758*; WOS:000310186000016
24. Ahmad A, Genovese T, Impellizzeri D, Crupi R, Velardi E, **Marino A.**, Esposito E, Cuzzocrea S. 2012. Reduction of ischemic brain injury by administration of palmitoylethanolamide after transient middle cerebral artery occlusion in rats. *Brain Res.* 2012 Oct 5;1477C:45-58. doi: 10.1016/j.brainres.2012.08.006. *scopus 2-s2.0-84866385818*; WOS:000310414100006

25. Morabito R., **Marino A.**, La Spada G. 2013. Heavy metals affect Regulatory Volume Decrease (RVD) in nematocytes isolated from the jellyfish *Pelagia noctiluca*. *Comp Biochem Physiol part A*, 165: 199-206. DOI: 10.1016/j.cbpa.2013.03.004 *scopus 2-s2.0-84875776762*
26. Crupi R, **Marino A**, Cuzzocrea S. 2013. n-3 Fatty Acids: Role in Neurogenesis and Neuroplasticity. *Curr Med Chem*. 20(24):2953-63.. *scopus 2-s2.0-84880301389*; WOS:000321556900002
27. Morabito R., **Marino A.**, Lauf PK., Adragna NC., La SpadaG. 2013. Sea Water Acidification Affects Osmotic Swelling, Regulatory Volume Decrease and Discharge in Nematocytes of the Jellyfish *Pelagia noctiluca*. *Cell Physiol Biochem* 32 (suppl 1):77-85. *Scopus 2-s2.0-84892917207*; WOS:000330292700006
- 28 Morabito R., **Marino A.**, Romano P., Rigano C., La SpadaG. 2013. Sulphate and Chloride-Dependent Potassium Transport in Human Erythrocytes are Affected by Crude Venom from Nematocysts of the Jellyfish *Pelagia noctiluca*. *Cell Physiol Biochem* 32 (suppl 1):86-95. *Scopus 2-s2.0-84892936132*; WOS:000330292700007
29. Morabito R., **Marino A.**, Dossena S., La Spada G. 2014. Nematocyst discharge in *Pelagia noctiluca* (Cnidaria, Scyphozoa) oral arms can be affected by lidocaine, ethanol, ammonia and acetic acid. *Toxicol*, 83C:52-58 doi: 10.1016/j.toxicol.2014.03.002. *scopus 2-s2.0-84896975872*; WOS:000335876300006
30. Bruschetta G., Impellizzeri D., Morabito R., **Marino A.**, Ahmad A., Spanò N., La Spada G., Cuzzocrea S., Esposito E. 2014. *Pelagia noctiluca* (Scyphozoa) crude venom injection elicits oxidative stress and inflammatory response in rats. *Mar. Drugs* special issue "Bioactive Compounds from Marine Invertebrates", 12(4), 2182-2204; doi:10.3390/md12042182. *scopus 2-s2.0-84900404932*; WOS:000335759500029
31. Morabito R., Dossena S., La Spada G., **Marino A.** 2014. Heavy metals affect nematocysts discharge response and biological activity of crude venom in the jellyfish *Pelagia noctiluca* (Cnidaria, Scyphozoa). *Cell Physiol Biochem*, 34:244-254. DOI: 10.1159/000362979, *scopus 2-s2.0-84904270576*; WOS:000343764600002
32. Morabito R, La Spada G, Dossena S, **Marino A.** 2014. Oxidative stress affects responsiveness to hypotonicity of renal cells. *J Biol Res* 87 (4811): 61-65. doi:10.4081/jbr.2014.4811. *Scopus 2-s2.0-84938896760*
33. Morabito R, Dossena S, La Spada G, **Marino A.** 2014. Regulatory Volume Decrease in isolated nematocytes is affected by crude venom from the jellyfish *Pelagia noctiluca*. *J Biol Res* 87(4813):50-55. doi:10.4081/jbr.2014.4813. *Scopus 2-s2.0-84938844003*
34. Morabito R, Falliti G, Geraci A, La Spada G, **Marino A.** 2015. Curcumin protects -SH groups and sulphate transport after oxidative damage in human erythrocytes. *Cell Physiol Biochem*. 36: 345-357. DOI: 10.1159/000430256, *scopus 2-s2.0-84929923870*; WOS:000355017300029
35. Morabito R. **Marino A.**, Dossena S., Paulmichl M., La Spada G. 2015. Effects of *Pelagia noctiluca* crude venom on cell viability and volume regulation. *J Biol Res* 88:5161, pag 14. *Scopus 2-s2.0-84929172481*
36. **Marino A**, Paterniti I, Cordaro M, Morabito R, Campolo M, Navarra M, Esposito E, Cuzzocrea S. 2015. Role of natural antioxidants and potential use of bergamot in treating Rheumatoid Arthritis. *PharmaNutrition* 3:53-59. Doi:10.1016/j.phanu.2015.03.002. *scopus 1-s2.0-S2213434415000146*
37. Morabito R., La Spada G., Crupi R., Esposito E., **Marino A.** 2015. Crude Venom from Nematocysts of the Jellyfish *Pelagia noctiluca* as a Tool to Study Cell Physiology. *CNSAMC (Central Nervous System Agents in Medicinal Chemistry)* special issue 'The activity of products from Cnidaria: a therapeutic tool in neurological diseases?' 15(2): 68-73. DOI: 10.2174/1871524914666141028150212. *Scopus: 2-s2.0-84928146949*
38. Morabito R, **Marino A**, La Spada G, Pane L, Mariottini GL. 2015. The venom and the toxicity of *Pelagia noctiluca* (Cnidaria: Scyphozoa). A review of three decades of research in Italian laboratories and future perspectives. *J Biol Res* 88(2):5372, 173-178. DOI: 10.4081/jbr.2015.5372. *Scopus: 2-s2.0-84977136805*; WOS:000367450500005

39. Morabito R, Romano O, La Spada G, **Marino A.** 2016. H₂O₂-induced oxidative stress affects SO₄²⁻ transport in human erythrocytes. PlosOne, 11(1):e0146485, doi: 10.1371/journal.pone.0146485. eCollection 2016. *Scopus*: 2-s2.0-84954338838; WOS:000367815600055
40. R. Morabito, A. Remigante, R. Costa, S. Dossena, G. La Spada, **A. Marino.** 2016. Cd²⁺ affects Osmotic Phase (OP) and Regulatory Volume Decrease (RVD) in cultured human kidney (HEK 293 Phoenix) cells. J Biol Res 89(5650):12-19, doi:10.4081/jbr.2016.5650. *Scopus*: 2-s2.0-84976910522; WOS:000378424800004
41. Kumar Palanisamy S[†], Morabito R[†], Remigante A, Spanò N, La Spada G, Giacobbe S, **Marino A.** 2016. Biological activity of extract from *Styela plicata* and *Ascidia mentula* (Ascidacea). J Biol Res 89(5812): 27-32. doi:10.4081/jbr.2016.5812 *Scopus*: 2-s2.0-84976894775; WOS:000378424800006
42. Morabito R, Remigante A, Di Pietro ML, Giannetto A., La Spada G., **Marino A.** 2017. SO₄²⁻ uptake and catalase role in preconditioning after H₂O₂-induced oxidative stress in human erythrocytes. Pflügers Arch 469(2):235-250, DOI 10.1007/s00424-016-1927-1. *Scopus*: 2-s2.0-85006333192; WOS:000392619600006
43. R. Morabito, R. Costa, V. Rizzo, A. Remigante, C. Nofziger, G. La Spada, **A. Marino**, M. Paulmichl, S. Dossena. 2017. Crude venom from nematocysts of *Pelagia noctiluca* (Cnidaria: Scyphozoa) elicits a sodium conductance in the plasma membrane of mammalian cells. Sci Rep, 7:41065, DOI: 10.1038/srep41065. *Scopus*: 2-s2.0-85010452333; WOS:000392414600001
44. Palanisamy SK, Rajendran N.M., **Marino A.** 2017. Natural Products diversity of Marine Ascidians (Tunicates; Ascidacea) and successful drugs in clinical development. Nat Prod Bioprospect 7(1):1-111, DOI: 10.1007/s13659-016-0115-5. Cod pubmed 2809764; WOS:000396999800001
45. Morabito R, Remigante A, Cavallaro M, Taormina A, La Spada G, **Marino A.** 2017. Anion exchange through Band 3 protein in canine leishmaniasis at different stages of disease. Pflügers Arch 469(5-6): 713-724. DOI: 10.1007/s00424-017-1974-2. *Scopus*: 2-s2.0-85017119151; WOS:000401865900012
46. Morabito R., Remigante A., Bagnato G., Roberts WN., Sciortino D., D'Angelo T., Iannelli F., Iannelli D, Cordova F., Cirillo M., La Spada G., **Marino A.** 2017. Band 3 Protein Function and Oxidative Stress in Erythrocytes from Systemic Sclerosis Patients with Interstitial Lung Disease. European Journal of Clinical and Biomedical Sciences, 3(4): 80-84. DOI: 10.11648.j.ejcb.20170304.12
47. Akki R. Siracusa R, Morabito R., Remigante A., Campolo M., Errami M., La Spada G., Cuzzocrea S., **Marino A.** 2018. Neuronal-like differentiated SH-SY5Y cells adaptation to a mild and transient H₂O₂-induced oxidative stress. Cell Biochem Funct 36:56-64. DOI: 10.1002/cbf.3317, PMID: 29431194, *Scopus*: 2-s2.0-85041902102. WOS:000426608600002
48. Remigante A., Costa R., Morabito R., La Spada G., **Marino A.**, Dossena S. 2018. Impact of Scyphozoan venoms on human health and current aid options for stings. Toxins, "Marine and Freshwater Toxins" MDPI, 10(4). pii: E133. doi: 10.3390/toxins10040133. PMDI: 29570625. *Scopus*: 2-s2.0-85044572242, WOS:000435183700004
49. Tamma G., Valenti G., Grossini E., Donnini S., **Marino A.**, Marinelli R., Calamita G. 2018. Aquaporin membrane channels in oxidative stress, cell signaling and aging: recent advances and research trends. Special issue "Oxidative stress and membrane transport systems", Oxid Med Cell Longev. 2018:1501847, doi:10.1155/2018/1501847, eCollection 2018. PMID:29770164. *Scopus*: 2-s2.0-85045723713, WOS:000429692500001
50. Morabito R., Remigante A, Arcuri B, Marino A, La Spada G., **Marino A.** 2018. Effect of cadmium on anion exchange capability through Band 3 protein in human erythrocytes. J Biol Res, 91:7203; 1-7 doi: 10.4081/jbr.2018.7203, WOS:000439976400006, *Scopus*: 2-s2.0-85063891529
51. **Marino A**, Dossena S, Tamma G, Donnini S. 2018. Oxidative stress and membrane transport systems. Editorial, Special issue "Oxidative stress and membrane transport systems", Oxid Med Cell Long, Hindawi, 2018:9625213, doi: 10.1155/2018/9625213, *Scopus*: 2-s2.0-85056568656, WOS:000436266400001
52. Crupi R., Morabito R., Remigante A., Gugliandolo E., Britti D., Cuzzocrea S., **Marino A.** 2019. Susceptibility of erythrocytes from different sources to xenobiotics-induced lysis. Comp Biochem Physiol

Part C. 221: 68-72. doi: 10.1016/j.cbpc.2019.03.008, *Scopus*: 2-s2.0-85063863088, PMID: 30926402, WOS:000469158100008

53. Morabito R, Remigante A, **Marino A.** 2019. Protective Role of Magnesium against Oxidative Stress on SO_4^- Uptake through Band 3 Protein in Human Erythrocytes. *Cell Physiol Biochem.* 52(6):1292-1308. doi: 10.33594/000000091. *Scopus*: 2-s2.0-85065319534. PMID: 31026392

54. Morabito R, Remigante A, **Marino A.** 2019. Melatonin protects Band 3 protein in human erythrocytes against H_2O_2 -induced oxidative stress. *Molecules*, 24, 15; pii: E2741; doi:10.3390/molecules24152741. *Scopus*: 2-s2.0-85070747750; PMID: 31357737, WOS:000482441100064

55. Remigante A, Morabito R, **Marino A.** 2020. Natural antioxidants beneficial effects on anion exchange through Band 3 protein in human erythrocytes. Special Issue *Fighting Radical Species in Human Health: Mitigating Radical Species with Natural and Synthetic Compounds*, *Antioxidants* 2020, 9(1), 25; doi:10.3390/antiox9010025. *Scopus*: 2-s2.0-85077618619, PMID: 31888111, WOS:000512151700005

56. Morabito R., Remigante A., Spinelli S., Vitale G., Trichilo V., Loddo S., **Marino A.** 2020. High glucose concentrations affect Band 3 protein in human erythrocytes. *Antioxidants* 9, 365; Section: *Health Outcomes of Antioxidants and Oxidative Stress*; Special Issue: *Cellular Oxidative Stress*. doi:10.3390/antiox9050365, *Scopus* 2-s2.0-85085040746, WOS:000539284200008, PMID: 32349441

57. Morabito R., Remigante A., Cordaro M., Trichilo V., Loddo S, Dossena S., **Marino A.** 2020. Impact of acute inflammation on Band 3 protein anion exchange capability in human erythrocytes. *Arch Physiol Biochem*, doi: 10.1080/13813455.2020.1764048, *Scopus*: 2-s2.0-85084821434. WOS:000533757200001, PMID: 32401056

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59. Hrelia, Patrizia, Sita, Giulia, Ziche, Marina, Ristori, Emma, **Marino, Angela**, Cordaro, Marika, Molteni, Raffaella, Spero, Vittoria, Malaguti, Marco, Morroni, Fabiana, Hrelia, Silvana. 2020. Common Protective Strategies in Neurodegenerative Disease: Focusing on Risk Factors to Target the Cellular Redox System. *OXIDATIVE MEDICINE AND CELLULAR LONGEVITY*, vol. 2020, p. 1-18, ISSN: 1942-0900, doi: 10.1155/2020/8363245. eCollection 2020, pag 1-18. *Scopus* 2-s2.0-85090072341, WOS:000563531300002, PMID: 32832006.

60. Costa, Roberta, Remigante, Alessia, Civello, Davide A., Bernardinelli, Emanuele, Szabó, Zoltán, Morabito, Rossana, **Marino, Angela**, Sarikas, Antonio, Patsch, Wolfgang, Paulmichl, Markus, Janáky, Tamás, Miseta, Attila, Nagy, Tamás, Dossena, Silvia 2020. O-GlcNAcylation Suppresses the Ion Current $\text{ICl}_{\text{swell}}$ by Preventing the Binding of the Protein ICl_{N} to α -Integrin. *FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY*, vol. 8, p. 1-23, ISSN: 2296-634X, doi: 10.3389/fcell.2020.607080, , *Scopus* 2-s2.0-85097247183. WOS:000595134700001

61. Morabito R., Cornara L., La Spada G., **Marino A.**, Mariottini G. L., Remigante A., Burlando B. 2020. Inhibitory effect of plant extracts on the cytotoxicity of eurytele nematocysts from *Pelagia noctiluca*. *JOURNAL OF BIOLOGICAL RESEARCH*, vol. 93, p. 96-101, ISSN: 1826-8838, doi: 10.4081/jbr.2020.9136, *Scopus*: 2-s2.0-85101376525. WOS:000650167000006

62. Dossena, Silvia, **Marino, Angela** 2021. Cellular Oxidative Stress. *ANTIOXIDANTS*, vol. 10, p. 1-6, ISSN: 2076-3921, doi: 10.3390/antiox10030399, *Scopus* 2-s2.0-85100722509, PMID: 33559172, WOS:000616056600001

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Book chapters

1. Rizzo G, **Marino A**. Chapter 2: Cognitive impairment and micronutrients: Vitamin B12, folate, and homocysteine and implications for dementia. In: *Vitamins and Minerals in Neurological Disorders*, edited by Colin R. Martin, Vinood B. Patel, and Victor R. Preedy –Elsevier, pages 29-46, ISBN 978-032389835-5, 978-032391572-4, doi: 10.1016/B978-0-323-89835-5.00004-1, *Scopus* 2-s2.0-85166099936

2. Remigante A. Morabito R., Spinelli S., **Marino A.**, Dossena S. Pusch M. 2023. VRAC channels and the cellular redox balance. Open Access book, "Human Physiology - Annual Volume 2022" edited by Prof. Kunihiro Sakuma, ISSN 2631-826, ISBN 978-1-80356-660-3; Doi: 10.5772/intechopen.109563

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54. R. Morabito, A. Remigante, G. Bagnato, D. Sciortino, M. Cirillo, G. La Spada, **A. Marino**. 2016. SO₄⁼ uptake and oxidative stress in erythrocytes from systemic sclerosis patients with interstitial lung disease. 67° congresso nazionale Società Italiana di Fisiologia (SIF), Catania 21-23 Sett 2016, p.185.
55. A. Remigante, R. Morabito, A. Restuccia, B. Nicosia, V. Mentana, I. Polimeni, G. La Spada, **A. Marino**. 2016. Magnesium effect on SO₄⁼ uptake and oxidative stress in human erythrocytes. 67° congresso nazionale Società Italiana di Fisiologia (SIF), Catania 21-23 Sett 2016, p 191.

56. G. Bagnato, R. Morabito, **A. Marino**, D. Sciortino, A. Remigante, M. Cirillo, G. La Spada, W.N. Roberts, S. Gangemi, G. Bagnato. 2016. Stress ossidativo e fibrosi polmonare associate alla sclerosi sistemica. 53°congresso nazionale Società Italiana di Reumatologia, Rimini, 23-26 Nov 2016.
57. Morabito R., Mariottini G.L., **Marino A.**, La Spada G. 2016. Cytotoxicity of venom from heterotracheous microbasic eurytele nematocysts of *Pelagia noctiluca* (Cnidaria: Scyphozoa) to L929 mouse lung fibroblasts. Preliminary results. 89° Convegno della SOCIETÀ ITALIANA DI BIOLOGIA SPERIMENTALE "Clima e Vita", Bologna 1-2 Dic 2016.
58. A Remigante, R. Morabito, B. Arcuri, A. Marino, G. Scarfi, G. La Spada, **A. Marino**. Melatonin ameliorates anion exchange capability through Band 3 protein after H₂O₂-induced oxidative stress. SIF Pavia, 6-8 sett 2017, p 153.
59. R. Morabito, A. Remigante, G. Casili, G. La Spada, **A. Marino**. Magnesium prevents both H₂O₂- and NEM-induced oxidative damage at Band 3 protein level in human erythrocytes. 68th SIF Pavia, 6-8 sett 2017, p. 149.
60. Remigante A, Morabito R, La Spada G, **Marino A.** 2017. Effect of oxidative stress on SO₄⁼ uptake through Band 3 protein in human erythrocytes. 90° CONVEGNO SOCIETÀ ITALIANA DI BIOLOGIA SPERIMENTALE "Biologia sperimentale nella ricerca di base e applicata all'ambiente e all'uomo" Trapani, 27-28 Ottobre 2017. In: J Biol Res 90 (S1):7; doi:10.4081/jbr.2017.7162.
61. Mariottini G.L., Burlando B., Cornara L., Giordani P., Killi N., Remigante A., **Marino A.**, Morabito R., La Spada G. 2017. Neutralizing properties of plant extracts against jellyfish venom. 90° CONVEGNO SOCIETÀ ITALIANA DI BIOLOGIA SPERIMENTALE "Biologia sperimentale nella ricerca di base e applicata all'ambiente e all'uomo" Trapani, 27-28 Ottobre 2017. In: J Biol Res 90 (S1):16; doi:10.4081/jbr.2017.7162.
62. A. Remigante, R. Morabito, G. La Spada, **A. Marino**, S. Dossena. 2018. Biological activity of *Pelagia noctiluca* (Cnidaria: Scyphozoa; true jellyfish) crude venom. Paracelsus Sciences Get Together, Abstractband 2018. Salzburg, Austria 29 June 2018, p 218.
63. A. Remigante, R. Costa, D. Civello, T. Nagy, **A. Marino**, W. Patsch, S. Dossena. 2018. Mapping of ICln protein O-GlcNac modification sites involved in the regulation of cellular volume. 69th National Congress of Italian Physiological Society, Florence (Italy), 19-21 Sept, p 191.
- 64.A. Remigante, R. Morabito, **A. Marino**, S. Dossena. 2018. Electrophysiological properties of crude venom of *Pelagia noctiluca* (Cnidaria: Scyphozoa) nematocysts. 91° Congresso Nazionale Società Italiana Biologia Sperimentale (SIBS), Ancona 9-10 Nov 2018.
65. A. Remigante, R. Morabito, E. Bernardinelli, N. Tamas, **A. Marino**, S. Dossena. 2018. Role of O-GlcNAcylation in the regulation of cellular volume. 91° Congresso Nazionale Società Italiana Biologia Sperimentale (SIBS), Ancona 9-10 Nov 2018.
66. R. Morabito, A. Remigante, S. Loddo, V. Trichilo, S. Dossena, **A. Marino**. 2018. Hyperglycemia affects anion exchange through Band 3 protein: an *in vitro* and *in vivo* study on human erythrocytes. 91° Congresso Nazionale Società Italiana Biologia Sperimentale (SIBS), Ancona 9-10 Nov 2018.
67. A. Remigante, R. Costa, D. Civello, R. Morabito, T. Nagy, **A. Marino**, S. Dossena. 2019. Functional significance of O-GlcNAcylation of ICln in the regulation of cellular volume. Submitted for Experimental Biology Congress, Orlando (Florida), 6th -9th April 2019.
68. R. Morabito, A. Remigante, S. Dossena, **A. Marino**. 2019. Impact of C-reactive protein on Band 3 protein function in human erythrocytes. Submitted for Experimental Biology Congress, Orlando (Florida), 6th - 9th April 2019.
69. R. Crupi, R. Morabito, A. Remigante, E. Gugliandolo, D. Britti, S. Cuzzocrea, **A. Marino**. 2019. Susceptibility of erythrocytes from different sources to xenobiotics-induced lysis. Submitted for Experimental Biology Congress, Orlando (Florida), 6th -9th April 2019.

70. Remigante A, Costa R, Civello D, Morabito R, Nagy T, **Marino A**, Dossena S. 2019. Effect of O-GlcNAcylation of ICLN in the regulation of cellular volume. FEPS 2019, Federation of European Physiological Societies/Italian Physiological Society, Bologna, Sept 2019.
71. Remigante A, Morabito R, **Marino A**, Dossena S. 2019. The potential role of O-GlcNAcylation in diabetes and depression comorbidity. FEPS 2019, Federation of European Physiological Societies/Italian Physiological Society, Bologna, Sept 2019.
72. R. Morabito, A. Remigante, S. Spinelli, G. Vitale, S. Loddo, V Trichilo, S. Dossena, **A. Marino**. 2019. Band 3 protein function in oxidative and inflammatory diseases. FEPS 2019, Federation of European Physiological Societies/Italian Physiological Society, Bologna, Sept 2019.
73. S. Spinelli, G. Vitale, A. Remigante, R. Morabito, **A. Marino**. 2019. Role of antioxidants in preventing H₂O₂-induced damage on Band 3 protein. FEPS 2019, Federation of European Physiological Societies/Italian Physiological Society, Bologna, Sept 2019.
74. Remigante A., Morabito R., Nagy T., Spinelli S., Cordaro M., **Marino A.**, Sarikas A., Dossena S. 2020. The possible role of O-GlcNAc modification in the pathogenesis of depression disorder. EB 2020 congress San Diego, CA, US. THE FASEB, Federation of American Societies for Experimental Biology
75. Morabito R., Remigante A, Spinelli S., Cordaro M., Dossena S, **Marino A**. 2020. D-glucose and D-galactose affect Band 3 protein function and oxidative stress in human erythrocytes. EB 2020 congress San Diego, CA, US. THE FASEB, Federation of American Societies for Experimental Biology
76. Cordaro M., Remigante A., Crupi R., Morabito R., **Marino A**. 2020. Inflammation and oxidative damage as risk factors of neurodegeneration after Traumatic Brain Injury in young and aged mice. EB 2020 congress San Diego, CA, US. THE FASEB, Federation of American Societies for Experimental Biology
77. Remigante A., Morabito R., **Marino A.**, Picco C, Zifarelli G., Dossena S, Pusch M. 2021. Reduction of Kir4.1 channel activity in an oxidative stress-related aging model. EB 2021 congress, 27-30 April 2021. THE FASEB, Federation of American Societies for Experimental Biology.
78. Spinelli S., Remigante A., Morabito R., **Marino A.**, Dossena S. 2021. D-Galactose-induced accelerated aging model on human erythrocytes and role of Band 3 protein. EB 2021 congress, 27-30 April 2021. THE FASEB, Federation of American Societies for Experimental Biology.
79. Remigante A., Morabito R., Spinelli S., Pusch M., Dossena S, **Marino A**. 2021. The impact of oxidative stress on anion exchange capability of Band 3 protein. Congresso Nazionale della Società Italiana di Biologia Sperimentale (SIBS), Palermo, 22-24 April 2021.
80. Remigante A., Morabito R., **Marino A.**, Picco C, Zifarelli G., Dossena S, Pusch M. 2021. Kir2.1 channel in an oxidative stress-related model of aging neuroglia. SIF National Congress (Società Italiana di Fisiologia), 7-9 September 2021, Milan.
81. Spinelli S., Remigante A., Trichilo V., Loddo S., Pusch M., Dossena S., **Marino A.**, Morabito R. 2021. Effect of Quercetin on d-Galactose aging model in human erythrocytes. SIF National Congress (Società Italiana di Fisiologia), 7-9 September 2021, Milan.
82. Remigante A., Morabito R., **Marino A.**, Sarikas A., Pusch M., Dossena S. 2021. Role of Kir2.1 channels in an oxidative stress-related model of aging neuroglia. Paracelsus Sciences Get Together conference 2021.
83. A. Remigante, R Morabito, **A. Marino**, A. Sarikas, C. Picco, M. Pusch, S. Dossena. 2021. Functional characterization of Kir2.1 channel in an oxidative stress-related model of aging neuroglia. European Physiology Day, FEPS (Federation of European Physiological Societies) virtual meeting , 12 Oct 2021.
84. Sara Spinelli, A. Remigante, V. Trichilo, S. Loddo, M. Pusch, S. Dossena, **A. Marino**, R. Morabito. 2021. Anion exchange through Band 3 protein is affected by D-Galactose treatment. European Physiology Day, FEPS (Federation of European Physiological Societies) virtual meeting , 12 Oct 2021.

- 85 Spinelli, S., Remigante, A., Dossena, S., Marino, A., Morabito, R. (2022). Hemoglobin Glycation and Oxidative Stress Induce Functional Modification of Band 3 Protein in D-Galactose-Treated Erythrocytes: Double Effect of Quercetin. Experimental Biology Congress, 2-5 April 2022
- 86 Remigante, A., Morabito, R., Spinelli, S., Marino, A., Sarikas, A., Pusch, M., Dossena, S. (2022). Oxidative stress targets the channel Kir2.1 in a model of aging neuroglia. Experimental Biology Congress, 2-5 April 2022
- 87 Remigante, A., Spinelli, S., Morabito, R., Marino, A., Sarikas, A., Pusch, M., Dossena, S. (2022). Oxidative stress impairs the activity of Kir2.1 channels in a model of aging neuroglia, Società Italiana di Biologia Sperimentale (SIBS), Torino, 6-9 April 2022
- 88 Spinelli, S., Remigante, A., Dossena, S., Caruso, D., Marino, A., Morabito, R. (2022). Erythrocyte Aging Is Associated with Changes in Band 3 Protein Function Due to Oxidative Stress And Glycation Events. Società Italiana di Biologia Sperimentale (SIBS), Torino, 6-9 April 2022
- 89 Spinelli, S., Remigante, A., Mantegna, G., Basile, N., Sarikas, A., Dossena, S., Marino, A., Morabito, R. (2022). Role of erythrocyte Band 3 protein in a D-Galactose induced aging model: beneficial effects of Quercetin and Açai berries. 15th Annual Meeting of Young Researchers in Physiology. Bertinoro (FC), Italy, 13-15 June 2022
- 90 Remigante, A., Spinelli, S., Morabito, R., Marino, A., Sarikas, A., Pusch, M., Dossena, S. (2022). Dysfunction of Kir2.1 Channel in the Aging Neuroglia. Paracelsus Sciences Get Together Conference (Virtual Meeting), Salzburg, Austria, 1 July 2022
- 91 Spinelli, S., Remigante, A., Mantegna, G., Basile, N., Sarikas, A., Dossena, S., Marino, A., Morabito, R. (2022). Beneficial effects of Açai berries against oxidative stress in human erythrocytes. Paracelsus Sciences Get Together Conference (Virtual Meeting), Salzburg, Austria, 1 July 2022
- 92 Spinelli, S., Remigante, A., Mantegna, G., Marino, A., Morabito, R., Dossena, S. (2022). Age-related oxidative stress impairs the activity of Kv3.1 channel. 72st SIF National Congress - The Italian Society of Physiology. 14-16 September 2022
- 93 Remigante, A., Spinelli, S., Straface, E., Gambardella, L., Caruso, D., Falliti, G., Dossena, S., Marino, A., Morabito, R. (2022). Morphological and Functional Alterations in H₂O₂-treated Erythrocytes: Role of Quercetin. 72st SIF National Congress - The Italian Society of Physiology. 14-16 September 2022
- 94 Remigante, A., Mannino, G., Spinelli, S., Marino, A., Pusch, M., Morabito, R., Dossena, S. (2022). Targets of oxidative stress in the aging neuroglia: functional role of Kir2.1 channel. 72st SIF National Congress - The Italian Society of Physiology. 14-16 September 2022
- 95 Remigante, A., Spinelli, S., Straface, S., Gambardella, L., Caruso, D., Falliti, G., Dossena, S., Marino, A., Morabito, R. (2022). Oxidation Stress as a Mechanism of Aging in Human Erythrocytes: Protective Effect of Açai (*Euterpe oleracea*) Extract. 72st SIF National Congress - The Italian Society of Physiology. 14-16 September 2022
- 96 Spinelli, S., Remigante, A., Marino, A., Dossena, S., Morabito, M. (2023). Age-dependent functional changes in membrane transport systems: the key role of antioxidants. 68° convegno GEI-SIBSC, Oliveri (ME), Italia, 05-08 June 2023
- 97 Remigante, A., Spinelli, S., Marino, A., Pusch, M., Dossena, S., Morabito, R. (2023). Protective effects of melatonin in reducing oxidative stress in a model of aging neuroglia: focus on the Kir2.1 channel activity. 68° convegno GEI-SIBSC, Oliveri (ME), Italia, 05-08 June 2023
- 98 Remigante, A., Spinelli S., Marino A, Pusch M, Morabito R, Dossena S. (2023). Functional Alterations of the Inward Rectifier Potassium Channel Kir2.1 in an Oxidative Stress-Related Model of Aging Neuroglia. Paracelsus Sciences Get Together Conference, Salzburg, Austria, 30 June 2023

- 99 Spinelli, S., Remigante, A., Mantegna, G., Marino, A., Morabito, R., Dossena, S. (2023). Age-Related Oxidative Stress Impairs the Activity of Kv3.1 Channel: Protective Role of Melatonin. Paracelsus Sciences Get Together Conference, Salzburg, Austria, 30 June 2023
- 100 Perrone, P., Notariale, R., Spinelli, S., Mantegna, G., Straface, E., Marino, A., Remigante, A., Morabito, R., Manna, C. (2023). Mercury chloride affects band 3-mediated anionic transport in Red Blood Cells: Role of oxidative stress and protective effect of olive oil polyphenols. 62° Congresso SIB (Società Italiana di Biochimica). Firenze (FI), Italia, 7-9 September 2023
101. Raffaella Liuni, Sara Spinelli, Alessia Remigante, Gianluca Mantegna, Giuseppe Legname, Angela Marino, Rossana Morabito, Silvia Dossena. 2024 Oxidative stress-related cellular aging causes dysfunction of the Kv3.1/KCNC1 channel reverted by melatonin. PMU Get together
102. Alessia FLORAMO, Sara SPINELLI, **Angela MARINO**, Alessia REMIGANTE, Rossana MORABITO. 2024 ANTI-AGING ACTIVITY OF CITRUS BERGAMIA EXTRACT IN HUMAN ERYTHROCYTES. 96° Congresso Nazionale SIBS (Società Italiana di Biologia Sperimentale), L'Aquila 25-28 aprile 2024
103. Teresina PELLEGRINO, Alessia REMIGANTE, Sara SPINELLI, Rossana MORABITO, **Angela MARINO**. 2024. PROTECTIVE ROLE OF AÇAÌ BERRIES AGAINST AGE-RELATED OXIDATIVE STRESS IN HUMAN ERYTHROCYTES. 96° Congresso Nazionale SIBS (Società Italiana di Biologia Sperimentale), L'Aquila 25-28 aprile 2024
104. Sara SPINELLI, Alessia REMIGANTE, Silvia DOSSENA, **Angela MARINO**, Rossana MORABITO. 2024 AGING-RELATED OXIDATIVE STRESS AFFECTS KIR2.1 FUNCTION: PROTECTIVE ROLE OF MELATONIN. 96° Congresso Nazionale SIBS (Società Italiana di Biologia Sperimentale), L'Aquila 25-28 aprile 2024
105. Alessia REMIGANTE, Sara SPINELLI, **Angela MARINO**, Rossana MORABITO. 2024. CELLULAR AND MOLECULAR MECHANISMS RELATED TO AAPH EFFECTS IN HUMAN ERYTHROCYTES: BENEFICIAL ROLE OF ANTHOCYANIN EXTRACTED FROM CALLISTEMON CITRINUS. 96° Congresso Nazionale SIBS (Società Italiana di Biologia Sperimentale), L'Aquila 25-28 aprile 2024
106. Alessia REMIGANTE, Sara SPINELLI, Lucrezia GAMBARDELLA, Silvia DOSSENA, **Angela MARINO**, Elisabetta STRAFACE, Rossana MORABITO. 2024. EXPOSURE TO NANO-PLASTICS PROVOKES OXIDATIVE STRESS AFTER INTERNALIZATION IN HUMAN ERYTHROCYTES: ROLE OF ESTROGEN RECEPTORS. 96° Congresso Nazionale SIBS (Società Italiana di Biologia Sperimentale), L'Aquila 25-28 aprile 2024
107. Graziano VINCI, Sara SPINELLI, **Angela MARINO**, Rossana MORABITO, Alessia REMIGANTE. 2024. H₂O₂-INDUCED OXIDATIVE STRESS IMPAIRS BAND 3 PROTEIN FUNCTION IN HUMAN ERYTHROCYTES: PROTECTIVE ACTIVITY OF QUERCETIN. 96° Congresso Nazionale SIBS (Società Italiana di Biologia Sperimentale), L'Aquila 25-28 aprile 2024
108. Alessia Remigante, Sara Spinelli, Elisabetta Straface, Daniele Caruso, Silvia Dossena, Rossana Morabito, **Angela Marino**. 2024. Anion exchanger 1/AE1 function is compromised in red blood cells from pre-diabetic subjects: beneficial effects of finger lime (*Citrus australasica*, Faustrime cultivar) juice extract. 74th SIF national Congress, Rome 11-13 Sept 2024
109. Sara Spinelli, Alessia Remigante, **Angela Marino**, Rossana Morabito. 2024. Aging-related oxidative stress impairs cellular shape function and signaling in human erythrocytes: Açai berry is a keystone? 74th SIF national Congress, Rome 11-13 Sept 2024
110. Alessia Remigante, Sara Spinelli, **Angela Marino**, Rossana Morabito, Silvia Dossena. 2024. Melatonin restores KV3.1/KCNC1 channel function in an oxidative stress-related model of cellular aging. 74th SIF national Congress, Rome 11-13 Sept 2024
- 111 Sara Spinelli, Alessia Remigante, **Angela Marino**, Rossana Morabito. 2024. Exposure of human red blood cells to nano- and microplastics: mechanisms of internalization and evaluation of oxidative stress-related effects. 74th SIF national Congress, Rome 11-13 Sept 2024.

Meetings and Symposia

1. **Marino, A.**, Morabito, R., La Spada, G., 2007. The nematocyte. Workshop CIMS, Virginia Commonwealth University-Messina University. Messina, 14-18 May 2007.
2. Lauf PK, **Marino A**, Morabito R., La Spada G., Adragna, NC. Potassium and Water in Regulatory Volume Decrease of *Aiptasia diaphana* Nematocytes. 45th Annual meeting Lake Cumberland Biological Transport Group (LCBTG) Jamestown KY, USA, June 20-23, 2010.
3. Adragna NC, **Marino A**, Morabito R, La Spada G, Lauf PK. 2010. Mechanism Of Hyposmotic Volume Decrease In Isolated Nematocytes Of The Anthozoan *Aiptasia Diaphana*. 14/15 October 25th Meeting of the Ohio Physiological Society, Cleveland/Ohio, USA.
4. Crupi R., Mazzon E., **Marino A.**, La Spada G., Bramanti P., Battaglia P., Cuzzocrea S., Spina E. Synergetic effects of aripiprazole and fluoxetine on adult hippocampal neurogenesis and synaptic plasticity in mice. VI SIF Symposium *The Pharmacological Modulation Of Adult Neural Stem/Progenitor Cells*. Novara (Italy) October 1st- 2nd 2010.
5. **Marino A**, La Spada G, Morabito R, Adragna NC, Lauf PK. 2011. On the osmotic and volume regulatory phases in nematocytes. 46th annual meeting Lake Cumberland Biological Transport Group, Jamestown, KY, US, June 19th-22th 2011.
6. **Marino A**, Morabito R, La Spada G, Adragna NC and Lauf PK. Osmotic and volume regulatory phases in isolated nematocytes. Cell Volume Regulation Meeting Hydration & Cell Volume Regulation, September 04 – 07, 2011, Tübingen, Germany. Pag 20. WOS:000298490200049
7. Morabito R, Costa R., Rizzo V., **Marino A**, Dossena S., Paulmichl M., La Spada G., 2013. Effects of Pelagia noctiluca crude venom on cell viability and volume regulation. 48th annual meeting Lake Cumberland Biological Transport Group, Jamestown, KY, US, June 16th-19th 2013.

Awards

2003. Travel Award, 54th Conference Italian Physiological Society, Chieti (Italy), September 29-October 2, 2003.

Memberships In Scientific Societies

SIF (Società Italiana Fisiologia)

CoNISMa (Consorzio Nazionale Interuniversitario per le Scienze del Mare)

APS (American Physiological Society)

SIBS (Società Italiana di Biologia Sperimentale)

Projects participation:

PRIN 2007: Role of jellyfishes on marine ecosystem: Biology, ecology, fishing and human health effects. Principal investigator: Prof. L.Guglielmo.

PRIN 2009: Interazioni virus herpes simplex/cellule del compartimento della risposta innata: basi molecolari e ruolo di NF-kB e microRNA. Principal investigator Campadelli Maria Gabriella, codice 2009YFL2EK_003

FIRB 2010: Characterization, biological activity and therapeutic application of toxins from Mediterranean Cnidarians . Not funded, Score 43.

FIRB FUTURO IN RICERCA 2012: Ruolo della glia e delle cellule immuno-infiammatorie nel dolore cronico: individuazione di nuovi target farmacologici nell'analgesia e nella neuroinfiammazione periferica e centrale Codice: RBFR126IGO_003. Funded.

RESEARCH & MOBILITY 2015: "Effects of N-acylethanolamines and Polyphenols Association in the Control of Neuroinflammation after Traumatic Central Nervous System Injuries", Università degli Studi di Messina

PRIN 2015: FOCUSING ON RISK FACTORS TO SEARCH FOR NOVEL PROTECTIVE STRATEGIES IN NEURODEGENERATIVE DISEASES: TARGETING THE CELLULAR REDOX SYSTEM cod 20152HKF3Z_005. Funded. Coordinatore del Progetto: HRELIA Patrizia;
Responsabile di Unità di Ricerca: MARINO Angela

RESEARCH & MOBILITY 2017: "Palmitoylethanolamide-oxazoline (PEA-OXA) and Neuroinflammation: a Novel Therapeutic Strategy for neurodegenerative diseases", Università degli Studi di Messina

PRIN 2017: Study of the crosstalk between multiple pathways in the regulation of inflammatory processes in models of chronic and degenerative diseases. Cod 2017B9NCSX_001, Funded, Coordinatore del Progetto CUZZOCREA Salvatore. (29/08/2019-27/10/2023)

FFABR Unime 2020 - Finanziamento Attività di Base della Ricerca di Ateneo, sulla base del calcolo dell'indicatore di produzione scientifica individuale previsto dal bando, Università degli studi di Messina

ARS01_00693 BONE++ *Sviluppo di micro e nanotecnologie per la predittività, la diagnosi, la terapia e i trattamenti rigenerativi delle alterazioni patologiche dell'osso e osteo-articolari*, progetti di Ricerca Industriale e Sviluppo Sperimentale nelle 12 aree di specializzazione individuate dal PNR 2015 – 2020, AVVISO 1735/2017, Inizio attività 01/06/2020, Durata mesi 42, Prof. S. Cuzzocrea Responsabile Scientifico per l'Università degli Studi di Messina.

ProTIDol - *Validazione di un prodotto terapeutico innovativo per la gestione del dolore cronico primario limitando l'infiammazione persistente e la neuroinfiammazione associate*. Proponente Università di Messina, Azione 1.1.5 del POR FESR 2014-2020 -Progetto 08ME2110000209 - CUPG48_18001100007.

FFABR Unime 2022 - Finanziamento Attività di Base della Ricerca di Ateneo, sulla base del calcolo dell'indicatore di produzione scientifica individuale previsto dal bando, Università degli studi di Messina

Progetto Pharma-HUB - *HUB per il riposizionamento di farmaci nelle malattie rare del sistema nervoso in età pediatrica*. Piano Sviluppo e Coesione Salute - FSC 2014-2020 - Piano operativo salute - Traiettorie 4 "Biotecnologia, bioinformatica e sviluppo farmaceutico". Responsabile Scientifico, Prof. Salvatore Cuzzocrea; Coordinatrice delle attività progettuali, Prof.ssa Emanuela Esposito. Inizio 13/02/2023 – durata 4 anni

PRIN 2022:– *Functional characterization of Kir4.1 and its involvement in age-related hearing loss* - Prot. 2022YRBE8B, Settore LS4, durata 24 mesi, CUP J53D23012910006- codice identificativo PRIN_2022YRBE8B_001 Coordinatore: MARINO Angela

Reviewer for: PlosOne, Cellular Physiology and Biochemistry, MDPI journals, Karger, Elsevier

Editorial member for "European Journal of Clinical and Biomedical Sciences(EJCBS);

2017 Lead Guest Editor for Special Issue "Oxidative Stress and Membrane Transport Systems" in Oxidative Medicine and Cellular Longevity, Hindawi

2020 Guest Editor for Special Issue "Cellular Oxidative Stress" in "Antioxidants", MDPI

2020 Editorial member per Journal of Biological Research - Bollettino Società Italiana di Biologia Sperimentale - PagePress

2021 Guest Editor for Special Issue "Oxidative Stress and Antioxidants in Aging" in "Antioxidants", MDPI

2022: editor, Paracelsus Proceedings of Experimental Medicine (PPEXMed)

SCIENTIFIC ACTIVITY

1997-2000: Biology degree, Laboratory of Comparative Cellular Physiology, University of Messina, thesis project: "Morphological and functional features of nematocytes isolated from *Aiptasia diaphana* by both chemical and physical methods".

Outcomes:

- 1) Development of methodology to isolate nematocytes from tentacular and acontial tissues of Cnidarians such as *Aiptasia diaphana* from the brackish pond Faro (Messina, Italy).
- 2) Elucidation of the nematocyte discharge mechanism.
- 3) Methodological applications to other Coelenterata for tissue dissociation by heat application.
- 4) Successful isolation of anatomically intact nematocytes containing a ciliary cone.
- 5) Isolated nematocytes were successfully used to study regulatory volume decrease (RVD) and regulatory volume increase (RVI). These two mechanisms have been reported for cells and tissues from vertebrate and invertebrate animals but not for isolated nematocytes.

2000. Studies on the discharge mechanisms of isolated nematocytes of *Aiptasia diaphana*. Identification of nitric oxide (NO) and thiol compounds as key factors in the discharge mechanism.

2000-2001. Successful isolation of nematocytes from *Pelagia noctiluca*. This Scyphozoan inhabits the Strait of Messina and appears periodically in large swarms, posing a threat to public health.

2001-2005. Research fellowship from the Department of General Physiology and Pharmacology, University of Messina for investigation of the "Effects and action mechanisms of toxins from Mediterranean Coelenterata on tissues and isolated cells". The capsular fluid of isolated nematocysts from several species such as *Pelagia noctiluca*, *Aiptasia diaphana*, *Aiptasia mutabilis*, and *Calliactis parasitica*, has been extracted with the purpose to test their toxicological effects. Crude venom and some of its components have been isolated to further test their effects on biological systems.

2006-2015. Development of biological tests, such as: haemolytic, cytolytic, and discharge of acontia with the purpose to verify the biological activity of crude venom from different Cnidarians. The effect of osmotic protectants, antioxidants, cations, and proteases has been tested to evaluate the biological activity of crude venom.

Further studies on RVD in isolated nematocytes were carried out in collaboration with the US host (Cell Biophysics Group, Departments of Pathology, and Pharmacology & Toxicology, Boonshoft School of Medicine, Wright State University, Dayton, OH)

Immunohistochemical studies on acontia from Cnidarians were carried out with the purpose to identify both morphological and functional features of *in situ* nematocytes, the physiology of the discharge process and the possible role of neurotransmitters.

The study of Behavioural, hippocampal neurogenesis and neuroplasticity events in mice models has been initiated in collaboration with the Dept of Clinical and Experimental Medicine and Pharmacology of the Univ. of Messina, along with the study of pathophysiological features and pharmacological tools in brain trauma in rodent models.

2015-2018. A collaboration with Paracelsus Medizinische Privatuniversität of Salzburg (Austria) is addressed to the study of membrane transport systems involved in cell volume regulation, in both vertebrates and invertebrates, by physiological, molecular and electrophysiological approaches.

2015-pres. Band 3 protein anion exchange capability in human erythrocytes. Anion exchange capability has been chosen as a sensitive tool to monitor erythrocytes homeostasis in different in vitro or in vivo conditions. With regard to the first point, oxidative conditions modeled by H₂O₂ have been studied. With regard to the second point, the impact of oxidative stress-related disease, i.e. Systemic Sclerosis, Leishmaniasis and Diabetes, has been considered.

More recently, the impact of an experimental model of early aging (D-Galactose induced) has been evaluated on human erythrocytes with specific regard to oxidative implications and glycosylation processes. In this context the possible beneficial effect of natural antioxidants (i.e. extracts from acai berries, bergamot peel or juice) is under investigation

Signature

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