

Dr. PAOLA PIZZO

List of Publications

A- Scientific Papers

75. Filadi R., Greotti E., Turacchio G., Luini, A., Pozzan T., **Pizzo P.** (2014) Presenilin 2 is a master regulator of endoplasmic reticulum-mitochondria tethering. *Submitted*
74. Filadi R., Greotti E., Turacchio G., Luini, A., Pozzan T., **Pizzo P.** (2014) Mitofusin 2 ablation increases Endoplasmic Reticulum-Mitochondria coupling. *Under revision*
73. Di Benedetto G., Pendin D., Greotti E., **Pizzo P.**, Pozzan T. (2013) Ca²⁺ and cAMP cross-talk in mitochondria. *J Physiol.* 592 (Pt 2): 305-12.
72. Wong A.K., Capitanio P., Lissandron V., Bortolozzi M., Pozzan T., **Pizzo P.** (2013) Heterogeneity of Ca²⁺ handling among and within Golgi compartments. *J Mol Cell Biol.*, 5(4):266-76.
71. Costa A., Drago I., Zottini M., **Pizzo P.**, Pozzan T. (2013) Peroxisome Ca²⁺ Homeostasis in Animal and Plant Cells. *Subcell Biochem.* 69:111-133.
70. Hedskog L., Pinho C.M., Filadi R., Rönnbäck A., Hertwig L., Wiehager B., Larssen P., Gellhaar S., Sandebring A., Westerlund M., Graff C., Winblad B., Galter D., Behbahani H., **Pizzo P.**, Glaser E., Ankarcrona M. (2013) Modulation of the endoplasmic reticulum-mitochondria interface in Alzheimer's disease and related models. *Proc Natl Acad Sci U S A*, 110(19):7916-21.
69. Kipanyula M.J., Contreras L., Zampese E., Lazzari C., Wong A.K.C., **Pizzo P.**, Fasolato C. and Pozzan T. (2012). "Ca²⁺ dysregulation in neurons from transgenic mice expressing mutant presenilin 2". *Aging Cell*, 11:885-893.
68. **Pizzo P.**, Drago I., Filadi R. and Pozzan T. (2012). "Mitochondrial Ca²⁺ homeostasis: mechanism, role and tissue specificities". *Pflügers Archiv - European Journal of Physiology*, 464:3-17.
67. Tonello F., Simonato M., Aita A., **Pizzo P.**, Fernández J., Lomonte B., Gutiérrez J.M. and Montecucco C. (2012). "A Lys49-PLA2 Myotoxin of *Bothrops asper* triggers a rapid death of macrophages that involves autocrine purinergic receptor signalling". *Cell Death and Disease*, 3:e343.
66. Zampese E., **Pizzo P.** (2012). "Intracellular organelles in the saga of Ca(2+) homeostasis: different molecules for different purposes?" *Cell Mol Life Sci.* 69:1077-104.
65. Drago I., **Pizzo P.**, Pozzan T. (2011). "After half a century mitochondrial calcium in- and efflux machineries reveal themselves". *EMBO J.* 30: 4119-25.
64. Zampese E., Fasolato C., Pozzan T. and **Pizzo P.** (2011). "Presenilin-2 modulation of ER-mitochondria interactions. FAD mutations, mechanisms and pathological consequences". *Communicative & Integrative Biology* 4: 357-60.

63. Cano-Abad M.F., Herrera-Peco I., Sola R.G., Pastor J., Garcia-Navarrete E., Carrasco Moro R., **Pizzo P.** and Ruiz-Nun□o A. (2011). "New insights on culture and calcium signalling in neurons and astrocytes from epileptic patients". *International Journal of Developmental Neuroscience*, 29: 121-9.
62. **Pizzo P.**, Lissandron V., Capitanio P. and Pozzan T. (2011). "Calcium signalling in the Golgi apparatus". *Cell Calcium*, 50: 184-192 .
61. Zampese E., Fasolato C., Kipanyula M.J., Bortolozzi M., Pozzan T. and **Pizzo P.** (2011). "Presenilin 2 modulates ER-mitochondria interactions and Ca²⁺ cross-talk". *Proc Natl Acad Sci U S A.*, 108: 2777-82.
60. Dos Santos J.I., Cintra-Francischinelli M., Borges R.J., Fernandes C.A., **Pizzo P.**, Cintra A.C., Braz A.S., Soares A.M., Fontes M.R. (2011). "Structural, functional, and bioinformatics studies reveal a new snake venom homologue phospholipase A(2) class". *Proteins*, 79: 61-78.
59. **Pizzo P.**, Lissandron V. and Pozzan T. (2010). "The trans-Golgi compartment. A new distinct intracellular Ca²⁺ store". *Communicative & Integrative Biology* 3: 462-4.
58. Cintra-Francischinelli M., Caccin P., Chiavegato A., **Pizzo P.**, Carmignoto G., Angulo Y., Lomonte B., Gutiérrez J.M. and Montecucco C. (2010). "Bothrops snake myotoxins induce a large efflux of ATP and potassium with spreading of cell damage and pain". *Proc Natl Acad Sci U S A.*, 107:14140-5.
57. Lissandron V., Podini, P., **Pizzo P.*** and Pozzan T. (*corresponding author) (2010). "Unique characteristics of Ca²⁺ homeostasis of the trans-Golgi compartment". *Proc Natl Acad Sci U S A.*, 107: 9198-203.
56. Costa A., Drago I., Behera S., Zottini M., **Pizzo P.**, Schroeder J., Pozzan T. and Lo Schiavo F. (2010). "H₂O₂ in plant peroxisomes: an "in vivo" analysis uncovers a Ca²⁺-dependent scavenging system". *The Plant Journal*, 62: 760-72.
55. Giacomello M., Drago I., Bortolozzi M., Scorzeto M., Gianelle A., **Pizzo P.** and Pozzan T. (2010). "Ca²⁺ hot spots on the mitochondrial surface are generated by Ca²⁺ mobilization from stores, but not activation of store operated Ca²⁺ channels". *Molecular Cell*, 38:280-90.
54. Cintra-Francischinelli M., **Pizzo P.**, Angulo Y., Gutiérrez J.M., Montecucco C. and Lomonte B. (2010). "The C-terminal region of a Lys49 myotoxin mediates Ca(2+) influx in C2C12 myotubes". *Toxicon*, 55: 590-596.
53. **Pizzo P.**, Scapin C., Vitadello M., Florean C. and Gorza L. (2010). "Grp94 acts as a mediator of curcumin-induced anti-oxidant defence in myogenic cells". *J Cell Mol Med.* 14: 970-81.
52. Zampese E., Brunello L., Lissandron V., Pozzan T., **Pizzo P.** and Fasolato C. (2009). "Organelle-targeted Ca²⁺ probes help to visualize store Ca²⁺ handling by wild-type and mutant presenilin-2". *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*,5(4): p318.

51. Zampese E., Brunello L., Fasolato C. and **Pizzo P.** (2009). “Ca²⁺ dysregulation mediated by presenilins in Familial Alzheimer’s Disease: causing or modulating factor?” *Current Trends in Neurology*, 3: 1-14.
50. Cintra-Francischinelli M., **Pizzo P.**, Rodrigues-Simioni L., Ponce-Soto L.A., Rossetto O., Lomonte B., Gutiérrez J.M., Pozzan T. and Montecucco C. (2009). “Calcium imaging of muscle cells treated with snake myotoxins reveals toxin synergism and presence of acceptors”. *Cellular and Molecular Life Sciences*, 66:1718-28.
49. Brunello L., Zampese E., Florean C., Pozzan T., **Pizzo P.*** and Fasolato C. (*corresponding author) (2009). “Presenilin-2 dampens intracellular Ca²⁺ stores by increasing Ca²⁺ leakage and reducing Ca²⁺ uptake”. *J Cell Mol Med.*, 13:3358-69.
48. Celsi F., **Pizzo P.**, Brini M., Leo S., Fotino C., Pinton P. and Rizzuto R. (2009). “Mitochondria, calcium and cell death: a deadly triad in neurodegeneration”. *Biochimica et Biophysica Acta – Bioenergetics*, 1787:335-44.
47. Zampese E., Brunello L., Florean C., Ghidoni R., Binetti G., Pozzan T., **Pizzo P.** and Fasolato C. (2008). “Full-length and not mature presenilin 2 increases the leakage of intracellular calcium stores: Specific mechanisms and targets”. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* 4 (4): T731.
46. Pontarin G., Fijolek A., **Pizzo P.**, Ferraro P., Rampazzo C., Pozzan T., Thelander L., Reichard P.A. and Bianchi V. (2008). “Ribonucleotide reduction is a cytosolic process in mammalian cells independently of DNA damage”. *Proc Natl Acad Sci U S A*.105:17801-6.
45. Drago I., Giacomello M., **Pizzo P.** and Pozzan T. (2008). “Calcium dynamics in the peroxisomal lumen of living cells”. *J Biol Chem*. 283:14384-90.
44. Florean C., Zampese E., Zanese M., Brunello L., Ichas F., De Giorgi F. and **Pizzo P.** (2008). “High content analysis of γ -secretase activity reveals variable dominance of presenilin mutations linked to familial Alzheimer's disease”. *BBA - Molecular Cell Research*, 1783:1551-60.
43. **Pizzo P.** and Pozzan T. (2007) “Mitochondria-endoplasmic reticulum choreography: structure and signaling dynamics”. *Trends Cell Biol.*, 17, 511-517.
42. Giacomello M., Drago I., **Pizzo P.** and Pozzan T. (2007) “Mitochondrial Ca²⁺ as a key regulator of cell life and death”. *Cell Death Differ.*, 14, 1267-1274.
41. Rigoni M. **Pizzo P.**, Schiavo G., Weston AE., Zatti G., Rossetto O., Pozzan T., Montecucco C. (2007) “Calcium influx and mitochondrial alterations at synapses exposed to snake neurotoxins or their phospholipid hydrolysis products”. *J. Biol. Chem.*, 282, 11238-11245.
40. Pizzo P., Zatti G., Burgo A., Giacomello M., Florean C., Sinigaglia G., Barbiero L., Ghidoni R., Bagnoli S., Nacmias B., Sorbi S., Binetti G. and Fasolato C. (2006). “Familial Alzheimer’s disease presenilin mutants reduce calcium levels of intracellular stores. A

critical reevaluation of the “calcium overload” hypothesis”. **Alzheimer's & Dementia: The Journal of the Alzheimer's Association**, 2(3), S491.

39. Zatti G., Burgo A., Giacomello M., Barbiero L., Guidoni R., Sinigaglia G., Florean C., Bagnoli S., Binetti G., Sorbi S., **Pizzo P.*** and Fasolato C. (*corresponding author) (2006) “Presenilin mutations linked to Familial Alzheimer’s Disease reduce endoplasmic reticulum and Golgi apparatus calcium levels”. *Cell Calcium*, 39, 539-550.
38. **Pizzo P.** and Viola A. (2005). “Lipid-based membrane microdomains in T cell activation”. *Current Immunology Review*, 1, 7-12.
37. Giacomello M., Barbiero L., Zatti G., Squitti R., Binetti G., Pozzan T., Fasolato C., Ghidoni R. and **Pizzo P.** (2005). “Reduction of Ca^{2+} stores and Capacitative Ca^{2+} Entry is associated with the Familial Alzheimer’s Disease presenilin-2 T122R mutation and anticipates the onset of dementia”. *Neurobiology of Disease*, 18, 638-648.
36. Fasolato C., Zatti G., Giacomello M., Ghidoni R., Barbiero L., Binetti G. and **Pizzo P.** (2004). “The Ca^{2+} overload hypothesis in the familial form of Alzheimer's disease: New light from presenilin 2 mutations”. *Neurobiology of Aging*, 25, S564-S564.
35. **Pizzo P.** and Viola A. (2004). “Lipid rafts in lymphocytes activation”. *Microbes and Infection*, 6, 686-692.
34. Trentin L., Cabrelle A., Facco M., Carollo D., Miorin M., Tosoni A., **Pizzo P.**, Binotto G., Nicolardi L., Zambello R., Adami F., Agostini C. and Semenzato G. (2004). “Homeostatic chemokines drive migration of malignant B cells in patients with Non-Hodgkin's lymphomas”. *Blood*, 104, 502-508.
33. Zatti G., Ghidoni R., Barbiero L., Binetti G., Pozzan T., Fasolato C., and **Pizzo P.** (2004) “The presenilin 2 M239I mutation associated with familial Alzheimer disease reduces Ca^{2+} release from intracellular stores”. *Neurobiology of Disease*, 15, 269-278.
32. **Pizzo P.**, Giurisato E., Bigsten A., Tassi M., Tavano R., Shaw A. and Viola A. (2004). “Physiological T cell activation starts and propagates in lipid rafts”. *Immunol. Letters*, 91/1, 3-9.
31. Burgo A., Carmignoto G., **Pizzo P.**, Pozzan T. and Fasolato C. (2003). “Paradoxical Ca^{2+} rises induced by low external Ca^{2+} in rat hippocampal neurones”. *J. Physiol.* 549.2, 537-553.
30. **Pizzo P.** and Viola A. (2003). “Lipid rafts: structure and function”. *Curr Opin Immunol*, 15, 255-260.
29. **Pizzo P.**, Giurisato E., Tassi M., Benedetti A., Pozzan T. and Viola A. (2002). “Lipid rafts and T cell receptor signaling: a critical re-evaluation”. *Eur J Immunol.*, 32, 3082-3091
28. Gamberucci A., Giurisato E., **Pizzo P.**, Tassi M., Giunti R., McIntosh D.P. and Benedetti A. (2002). “Diacylglycerol activates the influx of extracellular cations in T lymphocytes independently of intracellular calcium store depletion and possibly involving endogenous TRP6 gene products”. *Biochem. J.*, 364, 245-254.

27. **Pizzo P.**, Burgo A., Pozzan T. and Fasolato C. (2001). "Role of capacitative calcium entry on glutamate-induced calcium influx in type I rat cortical astrocytes". *J. Neurochem.* 79, 98-109.
26. Fasolato C., **Pizzo P.**, and Pozzan T. (1998). "Calreticulin: An effective Ca²⁺ storing protein". *Pflügers Archiv - European Journal of Physiology* 436, 19.
25. Fasolato C., **Pizzo P.** (equal contributors) and Pozzan T. (1998). "Delayed activation of the store-operated calcium current induced by calreticulin overexpression in RBL-1 cells". *Mol. Biol. Cell* 9, 1513-1522.
24. Scheenen, W.J.J.M., **Pizzo, P.**, Pozzan T. and Fasolato C. (1997). "Characterization of acidic Ca²⁺ pools in secretory cells". *Biophys. J.*, 72, TU105-TU105.
23. **Pizzo P.**, Fasolato C. and Pozzan T. (1997). "Dynamic properties of an inositol 1,4,5-trisphosphate- and thapsigargin-insensitive calcium pool in mammalian cell line". *J. Cell Biol.* 136, 355-366.
22. De Giorgi F., Brini M., Bastianutto C., Marsault R., Montero M., **Pizzo P.**, Rossi R. and Rizzuto R. (1996). "Targeting aequorin and green fluorescent protein to intracellular organelles". *Gene* 173, 113-117.
21. Venerando R., Miotto G., **Pizzo P.**, Rizzuto R. and Siliprandi N. (1996). "Mitochondrial alterations induced by aspirin in rat hepatocytes expressing mitochondrially targeted green fluorescent protein (mtGFP)". *FEBS lett.* 382, 256-260.
20. Greenberg, D.S., Schatz, Y., Levy, Z., **Pizzo, P.**, Yaffe, D. and Nudel, U. (1996). "Reduced levels of dystrophin associated proteins in the brain of mice deficient for Dp71". *Hum. Mol. Genet.* 5, 1299-1303.
19. Rizzuto, R., Brini, M., **Pizzo, P.**, Murgia, M. and Pozzan, T. (1995). "Chimeric green fluorescent protein as a tool for visualizing subcellular organelles in living cells". *Curr. Biol.* 5, 635-642.
18. Di Virgilio, F., Zanovello, P., Zamboni, A., Bronte, V., **Pizzo, P.** and Murgia, M. (1995). "Cell membrane receptors for extracellular ATP: a new family of apoptosis-signalling molecules". *Fund. Clin. Immunol.* 3, 80-81
17. Nudel U., Yaffe D., Bar S., Barnea E., Greenberg D., Lederfein D., Makover A., Marquez F., **Pizzo P.**, Prigojin H., Rapaport D., Zuk D. (1994) "The Duchenne muscular-dystrophy gene- Products and regulation of expression". *J. Cellular Biochemistry* 18D, 473.
16. Volpe P., Biral D., **Pizzo P.**, Salviati G. and Margreth A. (1993). "Ontogenesis of chick iris intrinsic muscles: evidence for a smooth-to-striated muscle transition". *Dev. Biol.* 159, 441-449.
15. Murgia M., Hanau S., **Pizzo P.**, Ripa M. and Di Virgilio F. (1993). "Oxidized ATP. An irreversible inhibitor of the macrophage purinergic P2z receptor". *J. Biol. Chem.* 268, 8199-8203.

14. Bronte V., Zanovello P., Rosato A., Zambon A., Mandruzzato S., **Pizzo P.**, Di Virgilio F. and Collavo D. (1993). "Synergistic effect of extracellular adenosine 5-triphosphate and tumor necrosis factor on DNA degradation". *Cellular Immunology* 152, 110-119.
13. Di Virgilio F., Murgia M. and **Pizzo P.** (1992). "Cupio dissolvi: apoptosis or programmed cell death". *Minerva Biotecnologica* 4, 215-225.
12. **Pizzo P.**, Murgia M., Zambon A., Zanovello P., Bronte V., Pietrobon D. and Di Virgilio F. (1992). "Role of P2z purinergic receptors in ATP- mediated killing of TNF-sensitive and TNF-resistant L929 fibroblasts". *J. Immunol.* 149, 3372-3378.
11. Murgia M., **Pizzo P.**, Steimberg T. and Di Virgilio F. (1992). "Characterization of the cytotoxic effect of extracellular ATP in J774 mouse macrophages". *Biochem. J.* 288, 897-901.
10. Pollis F., Rosato A., Bronte V., Mandruzzato S., Zambon A., Zambello R., **Pizzo P.** and Zanovello P. (1992). "Interaction of large granular lymphocytes with susceptible target does not induce second messenger and cytolytic granule exocytosis". *Leukemia* 6, Supl 3, 92-93.
9. Murgia M., **Pizzo P.**, Sandonà D., Zanovello P., Rizzuto R. and Di Virgilio F. (1992). "Mitochondrial DNA is not fragmented during apoptosis". *J. Biol. Chem.* 267, 10939-10941.
8. Murgia M., **Pizzo P.**, Zanovello P., Zambon P. and Di Virgilio F. (1992). "In vitro cytotoxic effects of extracellular ATP". *Alternative To Laboratory Animals (ATLA)* 20, 66-70.
7. Di Virgilio F., Murgia M. and **Pizzo P.** (1991). "ATP as a cytotoxic molecule". *Acta Medica Romana* 29 n. 1/2, 53-65.
6. **Pizzo P.**, Zanovello P., Bronte V. and Di Virgilio F. (1991). "Extracellular ATP causes lysis of mouse thymocytes and activates a plasma membrane ion channel". *Biochem. J.* 274, 139-144.
5. Di Virgilio F., **Pizzo P.** and Picello E. (1991) "Mechanisms of neutrophil and macrophage motility". *Adv Exp Med Biol.* 297, 13-22.
4. Zanovello P., Bronte V., Rosato A., **Pizzo P.** and Di Virgilio F. (1990). "Responses of mouse lymphocytes to extracellular ATP. II Extracellular ATP causes cell type-dependent lysis and DNA fragmentation". *J. Immunol.* 145, 1545-1550.
3. Fasolato C., **Pizzo P.** and Pozzan T. (1990). "Receptor mediated calcium influx in PC12 cells: ATP and bradikinin activated two independent pathways". *J. Biol. Chem.* 265, 20351-20355.
2. Di Virgilio F., **Pizzo P.**, Zanovello P., Bronte V. and Collavo D. (1990). "Extracellular ATP as a possible mediator of cell-mediated cytotoxicity". *Immunol. Today* 11, (8), 274-276.
1. Picello E., **Pizzo P.** and Di Virgilio F. (1990). "Chelation of cytoplasmic Ca²⁺ increases plasma membrane permeability in murine macrophages". *J. Biol. Chem.* 265, 5635-5639.

B- Book Chapters

3. Filadi R., Zampese E., Pozzan T., **Pizzo P.*** and Fasolato C. (*corresponding author) (2012). "Endoplasmic Reticulum-mitochondria connections, calcium cross-talk and cell fate: a closer inspection." In "Endoplasmic Reticulum Stress in Health and Disease", P. Agostinis, A. Samali (eds), DOI 10.1007/978-94-007-4351-9_4, @ 2012 Springer Science+Business Media Dordrecht.
2. Di Virgilio F., **Pizzo P.** and Picello E. (1991). "Mechanisms of neutrophil and macrophage motility". In "New aspects of human polymorphonuclear leukocytes" W.M. Horl and P.J. Schollmeyer eds, vol. 297, 13-22.
1. Fasolato C., **Pizzo P.**, Treves S., Ronconi G., Malgaroli A., Meldolesi J. and Pozzan T. (1990). "Intracellular Ca^{2+} stores and receptor regulated Ca^{2+} channels in neuronal cells". In "Neurotoxicity of excitatory aminoacids", 11-17, edited by A.Guidotti-Raven Press, Ltd; N.Y.

C- Popular science articles/presentations

2. **Pizzo P.** and Costa A. (2013), "Peroxisomes and Golgi apparatus as players in Ca^{2+} homeostasis", in Simpson, A. (ed.), Calcium Signaling I: Regulation, Mechanisms, Effectors, Role in Disease and Recent Advances, The Biomedical & Life Sciences Collection, Henry Stewart Talks Ltd, London.
1. **Pizzo P.** (2007), " Ca^{2+} Alterations in Familial Alzheimer's Disease (FAD)", in Simpson, A. (ed.), Calcium Signaling: Regulation, Mechanisms, Effectors, Role in Disease and Recent Advances, The Biomedical & Life Sciences Collection, Henry Stewart Talks Ltd, London.