

## Dalla Pozza *curriculum vitae*

### PERSONAL DETAILS

**Date and place of birth:** March, 30 1979 – Verona, Italy.

**Citizenship:** Italian.

**Work address:** University of Verona, Biochemistry Section, Strada le Grazie 8, 37134, Verona, Italy.

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### EDUCATION

**2008-present:** Post-Doc fellowship, in Biochemistry laboratory at University of Verona.

**2005-2007:** PhD student in Human Oncological Pathology in Biochemistry laboratory at University of Verona. Title of PhD Thesis: “Molecular mechanisms of antitumor activity associated to zinc ion modulation in pancreatic adenocarcinoma cells”. Defence date: 23/04/2008.

**2004:** Degree in Agro-Industrial Biotechnology obtained 25/03/2004, at University of Verona with graduating mark 109/110.

### RESEARCH EXPERIENCE

**01/01/2018-present:** Titular of post-doctoral fellows in the research program "Active Nano-targeted therapy against tumor stem cells deriving from pancreatic adenocarcinoma" at the University of Verona. I am studying pancreatic cancer stem cells in culture for long periods evaluating the cellular and stem characteristics to identify molecular targets.

**01/09/2013 – 31/12/2017** Titular of two post-doctoral fellows in Prof. Marta Palmieri and Prof. Aldo Scarpa laboratory, University of Verona. In this period, I worked in the research program "Innovative methods for the detection of markers of early diagnosis of pancreatic cancer" financed with the AIRC 5x1000 funds. I have been involved in the study of pancreatic cancer stem cells with particular regard to characterization *in vitro* and *in vivo*, to secretome and proteome analyses, and in autophagic mechanism induced by p53-reactivating molecules and by UCP2 inhibition in pancreatic cancer cell lines.

**01/01/2009 - 31/08/2013** Titular of two post-doctoral fellows in Prof. Marta Palmieri laboratory, University of Verona. In this period, I studied the effect and the molecular mechanism of many anti-tumoral compounds in pancreatic adenocarcinoma cell lines *in vitro* e *in vivo* also through the use of nanotechnological approaches.

**01/01/2008 – 31/12/2008:** Titular of research fellowship “Antonio Ferrari” fund by Associazione Italiana per la Ricerca sul Cancro (AIRC). Title of research fellowship: “Reactive oxygen species in gemcitabine induced pancreatic adenocarcinoma cell death: molecular mechanisms, biomarkers and drug sensitivity”.

### TRAINING

- I attended training courses for the use of laboratory animals at C.I.R.S.A.L (University of Verona).
- I attended training courses for health and safety at work and for safety management and risk assessment in chemical and biological laboratories.

### ACTIVITIES

- I was expert in the field of Biochemistry for sport at University of Verona for years 2008-2010 and 2013-2018.
- I was member of the scientific secretariat for the organization of the 27<sup>o</sup> Annual Congress of the Italian Association of Cell Culture, which was held in Verona in 12-14 November 2014.

### THECNICAL SKILLS

Competence in cellular and molecular biology, and biochemical techniques: cell culture, cell transfection, confocal microscopy, western blotting, DNA and RNA extraction and purification, PCR, real time-PCR, enzymatic activity assays, bacterial transformation and cloning. Competence *in vivo* experimental.

### **PARTECIPATION TO NATIONAL/INTERNATIONAL MEETINGS**

Author of twenty-six scientific poster presented at national and international congresses, two of these posters have received the award for Best Poster of the conference.

### **PARTICIPATION IN FUNDING PROJECTS**

- Tumor microenvironment and tumor spread in gastrointestinal cancers (AIRC regional projects-Veneto 2008, with renewal 2013-2014, PI Prof. Donato Nitti).
- Effects of oxidative stress induced by gemcitabine and anti-tumoral synergism with cannabinoids in pancreatic cancer cells (Joint Project 2008; PI Prof. Massimo Donadelli).
- Verona Nano-Medicine Initiative (2010; PI Prof. Guido Francesco Fumagalli).
- Innovative tools for early diagnosis and risk assessment of pancreatic cancer (AIRC 5x1000, 2012-2017; PI Prof. Aldo Scarpa).

Active targeted nano-therapy against cancer stem cells derived from pancreatic adenocarcinoma (Joint Projects 2017; PI Prof. Marta Palmieri).

### **PUBLICATIONS**

- 1- Donadelli M, **Dalla Pozza E**, Costanzo C, Scupoli MT, Piacentini P, Scarpa A, Palmieri M. Increased stability of P21(WAF1/CIP1) mRNA is required for ROS/ERK-dependent pancreatic adenocarcinoma cell growth inhibition by pyrrolidine dithiocarbamate. *Biochim Biophys Acta.* 1763, 917-926 (2006).
- 2- Donadelli M, **Dalla Pozza E**, Costanzo C, Scupoli MT, Scarpa A, Palmieri M. Zinc depletion efficiently inhibits pancreatic cancer cell growth by increasing the ratio of antiproliferative/proliferative genes. *J Cell Biochem.* 2008 May 1;104(1):202-12.
- 3- Donadelli M., **Dalla Pozza E.**, Scupoli M.T., Costanzo C., Scarpa A. and Palmieri M. Intracellular zinc increase inhibits p53(-/-) pancreatic adenocarcinoma cell growth by ROS/AIF-mediated apoptosis. *Biochim Biophys Acta.* 2009 Feb;1793:273-80.
- 4- Cecconi D., Donadelli M., **Dalla Pozza E.**, Rinalducci S., Zolla L., Scupoli M.T., Righetti P.G., Palmieri M. and Scarpa A. Synergistic effect of trichostatin A and 5-aza-2'-deoxycytidine on growth inhibition of pancreatic endocrine tumour cell lines: a proteomic study. *Proteomics.* 2009 Apr;9(7):1952-66.
- 5- **Dalla Pozza E**, Donadelli M, Costanzo C, Zaniboni T, Dando I, Franchini M, Arpicco S, Scarpa A, Palmieri M. Gemcitabine response in pancreatic adenocarcinoma cells is synergistically enhanced by dithiocarbamate derivatives. *Free Radic Biol Med.* 2011 Apr 15;50(8):926-33.
- 6- Donadelli M, Dando I, Zaniboni T, Costanzo C, **Dalla Pozza E**, Scupoli MT, Scarpa A, Zappavigna S, Marra M, Abbruzzese A, Bifulco M, Caraglia M, Palmieri M. Gemcitabine/cannabinoid combination triggers autophagy in pancreatic cancer cells through a ROS-mediated mechanism. *Cell Death Dis.* 2011 Apr 28;2:e152
- 7- **Dalla Pozza E**, Fiorini C, Dando I, Menegazzi M, Sgarbossa A, Costanzo C, Palmieri M, Donadelli M. Role of mitochondrial uncoupling protein 2 in cancer cell resistance to gemcitabine. *Biochim Biophys Acta.* 2012 Oct;1823(10):1856-63.
- 8- Rosati A, Bersani S, Tavano F, **Dalla Pozza E**, De Marco M, Palmieri M, De Laurenzi V, Franco R, Scognamiglio G, Palaia R, Fontana A, di Sebastiano P, Donadelli M, Dando I, Medema JP, Dijk F, Welling L, di Mola FF, Pezzilli R, Turco MC, Scarpa A. Expression of the antiapoptotic protein BAG3 is a feature of pancreatic adenocarcinoma and its overexpression is associated with poorer survival. *Am J Pathol.* 2012 Nov;181(5):1524-9.

- 9- Dando I, Fiorini C, **Dalla Pozza E**, Padroni C, Costanzo C, Palmieri M, Donadelli M. UCP2 inhibition triggers ROS-dependent nuclear translocation of GAPDH and autophagic cell death in pancreatic adenocarcinoma cells. *Biochim Biophys Acta*. 2013 Mar;1833(3):672-9.
- 10- Fiorini C, Menegazzi M, Padroni C, Dando I, **Dalla Pozza E**, Gregorelli A, Costanzo C, Palmieri M, Donadelli M. Autophagy induced by p53-reactivating molecules protects pancreatic cancer cells from apoptosis. *Apoptosis*. 2013 Mar;18(3):337-46.
- 11- **Dalla Pozza E**, Lerda C, Costanzo C, Donadelli M, Dando I, Zoratti E, Scupoli MT, Beghelli S, Scarpa A, Fattal E, Arpicco S, Palmieri M. Targeting gemcitabine containing liposomes to CD44 expressing pancreatic adenocarcinoma cells causes an increase in the antitumoral activity. *Biochim Biophys Acta*. 2013 May;1828(5):1396-404.
- 12- Dando I, Donadelli M, Costanzo C, **Dalla Pozza E**, D'Alessandro A, Zolla L, Palmieri M. Cannabinoids inhibit energetic metabolism and induce AMPK-dependent autophagy in pancreatic cancer cells. *Cell Death Dis*. 2013 Jun 13;4:e664.
- 13- Arpicco S, Lerda C, **Dalla Pozza E**, Costanzo C, Tsapis N, Stella B, Donadelli M, Dando I, Fattal E, Cattel L, Palmieri M. Hyaluronic acid-coated liposomes for active targeting of gemcitabine. *Eur J Pharm Biopharm*. 2013 Nov;85(3):373-80.
- 14- **Dalla Pozza E**, Dando I, Biondani G, Brandi J, Costanzo C, Zoratti E, Fassan M, Boschi F, Melisi D, Cecconi D, Scupoli MT, Scarpa A, Palmieri M. Pancreatic ductal adenocarcinoma cell lines display a plastic ability to bi-directionally convert into cancer stem cells. *Int J Oncol*. 2015;46(3):1099-108.
- 15- Donadelli M, Dando I, **Dalla Pozza E**, Palmieri M. Mitochondrial uncoupling protein 2 and pancreatic cancer: a new potential target therapy. *World J Gastroenterol*. 2015; 21(11):3232-8.
- 16- Dando I, Cordani M, **Dalla Pozza E**, Biondani G, Donadelli M, Palmieri M. Antioxidant Mechanisms and ROS-Related MicroRNAs in Cancer Stem Cells. *Oxid Med Cell Longev*. 2015;2015:425708.
- 17- Dando I, **Dalla Pozza E**, Biondani G, Cordani M, Palmieri M, Donadelli M. The metabolic landscape of cancer stem cells. *IUBMB Life*. 2015. doi: 10.1002/iub.1426.
- 18- Brandi J., **Dalla Pozza E.**, Dando I., Biondani G., Robotti E., Jenkins R., Elliott V., Park K., Marengo E., Costello E., Scarpa A., Palmieri M., Cecconi D. Secretome protein signature of human pancreatic cancer stem-like cells. *Journal of Proteomics*. 2016 Mar 16;136:1-12.
- 19- Cordani M., Oppici E., Dando I., Butturini E., **Dalla Pozza E.**, Nadal-Serrano M., Oliver J., Roca P., Mariotto S., Cellini B., Blandino G., Palmieri M., Di Agostino S., and Donadelli M. Mutant p53 proteins counteract autophagic mechanism sensitizing cancer cells to mTOR inhibition. *Molecular Oncology*. 2016 Apr 12. doi: 10.1016/j.molonc.2016.04.001
- 20- Brandi J, Cecconi D, Cordani M, Torrens-Mas M, Pacchiana R, **Dalla Pozza E**, Butera G, Manfredi M, Marengo E, Oliver J, Roca P, Dando I, Donadelli M. The antioxidant uncoupling protein 2 stimulates hnRNPA2/B1, GLUT1 and PKM2 expression and sensitizes pancreas cancer cells to glycolysis inhibition. *Free Radic Biol Med*. 2016 Oct 27. doi: 10.1016/j.freeradbiomed.2016.10.499.
- 21- Brandi J, Dando I, **Dalla Pozza E**, Biondani G, Jenkins R, Elliott V, Park K, Fanelli G, Zolla L, Costello E, Scarpa A, Cecconi D, Palmieri M. Proteomic analysis of pancreatic cancer stem cells: Functional role of fatty acid synthesis and mevalonate pathways. *J Proteomics*. 2017; 150:310-322. doi: 10.1016/j.jprot.2016.10.002.
- 22- **Dalla Pozza E**, Forciniti S, Palmieri M, Dando I. Secreted molecules inducing epithelial-to-mesenchymal transition in cancer development. *Semin Cell Dev Biol*. 2017 Jun 30. pii: S1084-9521(16)30486-4. doi: 10.1016/j.semcdb.2017.06.027. PMID:28673679.
- 23- Dando I, Pacchiana R, **Dalla Pozza E**, Cataldo I, Bruno S, Conti P, Cordani M, Grimaldi A, Butera G, Caraglia M, Scarpa A, Palmieri M, Donadelli M. UCP2 inhibition induces ROS/Akt/mTOR axis: Role of GAPDH nuclear translocation in genipin/everolimus

anticancer synergism. *Free Radic Biol Med.* 2017 Dec; 113:176-189. doi: 10.1016/j.freeradbiomed.2017.09.022.

- 24- Dalla Pozza E**, Manfredi M, Brandi J, Buzzi A, Conte E, Pacchiana R, Cecconi D, Marengo E, Donadelli M. Trichostatin A alters cytoskeleton and energy metabolism of pancreatic adenocarcinoma cells: An in depth proteomic study. *J Cell Biochem.* 2018;119:2696–2707.
- 25-** Biondani G, Zeeberg K, Greco MR, Cannone S, Dando I, **Dalla Pozza E**, Mastrodonato M, Forciniti S, Casavola V, Palmieri M, Reshkin SJ, Cardone RA. Extracellular matrix composition modulates PDAC parenchymal and stem cell plasticity and behavior through the secretome. *FEBS J.* 2018 Jun;285(11):2104-2124. doi: 10.1111/febs.14471.
- 26-** Marengo A, Forciniti S, Dando I, **Dalla Pozza E**, Stella B, Tsapis N, Yagoubi N, Fanelli G, Fattal E, Heeschen C, Palmieri M, Arpicco S. Pancreatic cancer stem cell proliferation is strongly inhibited by diethyldithiocarbamate-copper complex loaded into hyaluronic acid decorated liposomes. *Biochim Biophys Acta Gen Subj.* 2018 Sep 26;1863(1):61-72. doi: 10.1016/j.bbagen.2018.09.018

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