

Curriculum vitae

Stefania Pizzimenti

Personal details

- Born in Turin, Italy
- Nationality: Italian
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Educations

- 11/1996 - 07/2001- Post Graduate Specialization School in Clinical Pathology, University of Torino, Italy (UNITO)
- 11/1992 - 09/1997 – Ph.D. in Experimental and Molecular Pathology, UNITO
- 10/1987 - 07/1992 - Master in Science Biology, UNITO

Professional experiences and current position

- 10/2022-present Associated Professor of General Pathology, Dep. Clinical and Biological Sciences, UNITO
- 10/2006 - 09/2022 - Assistant Professor of General Pathology, Dep. Clinical and Biological Sciences, UNITO
- 03/1999 - 09/2006 Scientific Laboratory Technician, Department of Medicine and Experimental Oncology, UNITO
- 05/1999 – 01/ 2001 Visiting fellow Institute of General Pathology, University of Milan, Italy. Tutor: Dr. Barbara Giglioni
- 11/1995- 07/1996 - Visiting fellow Philipps-University of Marburg, Institute for Molecular Biology and Tumor Research, 35037 Marburg, Germany. Tutor: Prof. Rolf Müller
- 04/1994 Qualification as a Professional Biologist, UNITO

Participation to Directive Boards of Scientific Societies and/or Institutions:

- **Editorial Board Member**
 - 11/2022- present Frontiers in Cell and Developmental Biology, section Cancer Cell Biology. (ISSN: 2296-634X) IF 6.081
 - 03/2020 - present Antioxidants (ISSN: 2076-3921) IF 7.675
 - 11/2017 - present BioMed Research International (ISSN: ISSN: 2314-6133) IF 3.246
 - 11/2013 –present Journal of Pediatric Oncology (ISSN: 2309-3021)
 - 06/2011-06/2017 International Scholarly Research Notices Cell Biology (ISRN Cell Biology)" (ISSN: 2090-7389), then changed in ISNR- Area: Cell Biology"
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- **Memberships of Scientific Societies**
 - 04/2023-present European Association for Cancer Research (EACR)
 - 04/2023-present Italian Cancer Society – SIC (Società Italiana di Cancerologia) (Italy)
 - 04/2019 – present Society for Redox Biology & Medicine" (USA)
 - 09/2016 – present European Organization for Research and Treatment of Cancer -Melanoma group", EORTC MG
 - 09/2004 – present Italian Association Cell Culture (ONLUS-AICC)
 - 06/2000 – present Italian Society of Pathology and Translation Medicine (SIPMeT)

Honors

- 04/ 2004 - Award from Italian Association Cell Culture (ONLUS-AICC)
- 01/1996 - 07/1996 - Fellowship from Biotechnology Foundation of Torino, to carry out research activities abroad. Philipps-University of Marburg
- 01/1997-12/1998 - Full scholarship from UNITO to attend the Post Graduate Specialization School in Clinical Pathology .
- 11/1992 - 10/1996 – Competitive full scholarship financed from the Italian Ministry of Public Education

University and Research (MIUR, Italy), to complete the Ph.D .course.

Teaching activity:

1. Management assignments in University Courses

- Coordinator of the following integrated courses
 - 2009/10 – present Integrated course of “ Fundamentals of Pathology and Microbiology ”, Paediatric Nursing School, UNITO
 - 2007/08 - 2009/10 Integrated course of “ Fundamentals of Pathology and Physiopathology”, Childhood Neuro and Psychomotricity School, UNITO
- Member of the following committees
 - 03/2019 – present Teaching Committee Member in the Childhood Neuro and Psychomotricity School , UNITO
 - 03/2019 – present Monitoring Committee Member in the Childhood Neuro and Psychomotricity School, UNITO

2. Teacher in following Academic Courses

- Histopathology laboratory exercises – UNITO
 - Medicine and Surgery School (from 1993 to 1997, and from 1999 to 2010)
 - Radiology Technician School (from 1997 to 1999)
 - Biomedical Laboratory Techniques School (from 1999 to 2006)
- Course of Immunology - UNITO
 - Nursing School (2009/10 e 2010/11)
- Course of General Pathology - UNITO
 - Medicine and Surgery School (2018/19 – present)
 - Paediatric Nursing School (2009/10 - present)
 - Childhood Neuro and Psychomotricity School (2007/08- present)
 - Speech and Language Therapists School (2007/08 - present)
 - School of Orthoptics and Assistance Ophthalmology School (2007/08 - present)
 - Obstetrician School (2009/10- 2010/11)
 - Psychiatric Rehabilitation School (2007/08 - 2008/2009)
- Ph.D. Programme in Experimental Medicine and Therapy – UNITO (2021/22 – present)

Research main topics

- Role of products of lipid peroxidation, elicited by free radicals, in controlling tumor progression (LIPID PEROXIDATION AND CANCER)
- Enhancing the effects of pro-oxidant chemotherapeutic drugs when loaded into nanoparticles; use of redox-sensitive nanoparticles in cancer treatment (NANOMEDICINE)
- Targeting redox signaling pathways (i.e., Nrf2 and YAP) to overcome chemoresistance (OXIDATIVE STRESS AND CHEMORESISTANCE).

Main projects as PI:

- 10/2021-06/2023 Public Engagement Call from UNITO. Title: “*Vlagger alla scoperta della Città della Scienza di UNItO: le radici del futuro (VICINI)*”
- 2018 Local Funds from UNITO. Title: “*Inibizione di Nrf2 come strategia per superare la chemioresistenza in cellule d carcinoma della vescica resistenti al cisplatino*”,
- 2017 Fondo Finanziamento delle Attività Base di Ricerca (FFABR) from Italian Ministry of Public Education

Bibliometry (1996-present) (www.scopus.com) – access date: 26th April 2023

- Number of documents in Scopus = 72
- Scopus H Index = 31
- Citations (Scopus) = 2,644

Publications in peer-reviewed scientific journals

- BARRERA G., MURACA R., **PIZZIMENTI S.**, SERRA A., ROSSO C., SAGLIO G., FARACE M.G., FAZIO V.M., DIANZANI M.U. Inhibition of c-myc expression induced by 4-hydroxynonenal, a product of lipid peroxidation, in the HL-60 human leukemic cell line. *Biochem. Biophys. Res. Commun.*, 203: 553-561, 1994.
- BARRERA G., **PIZZIMENTI S.**, MURACA R., BARBIERO G., BONELLI G., BACCINO F.M., FAZIO V.M., DIANZANI M.U. Effect of 4-hydroxynonenal on cell cycle progression and expression of differentiation-associated antigens in HL-60 cells." *Free Rad. Biol. Med.*, 20, 455-462, 1996.
- BARRERA G., **PIZZIMENTI S.**, MUZIO G., MAGGIORA M., GARRAMONE A., BIASI F., DIANZANI M.U., CANUTO R.A. Enzymatic pattern of aldehyde metabolism during HL-60 cell differentiation . *Biochem. Biophys. Res. Commun.*, 223, 73-79, 1996.
- BARRERA G., **PIZZIMENTI S.**, SERRA A., FERRETTI C., FAZIO V.M., SAGLIO G., DIANZANI M.U. 4-Hydroxynonenal specifically inhibits c-myc but does not affect c-fos expression in HL-60 cells. *Biochem. Biophys. Res. Commun.*, 227: 589-593, 1996.
- BARRERA G., **PIZZIMENTI S.**, MUZIO G., MAGGIORA M., DIANZANI M.U., CANUTO R.A. Enzyme metabolizing aldehydes in HL-60 human leukemia cells. *Adv. Exp. Med. Biol.* 463: 517-522, 1999.
- **PIZZIMENTI S.**, BARRERA G., DIANZANI M.U., BRÜSELBACH S. Inhibition of D1, D2 and A cyclin expression in HL-60 cells by the lipid peroxidation product 4-hydroxynonenal. *Free Rad. Biol. Med.*, 26: 1578-86, 1999.
- RINALDI M., BARRERA G., ACQUINO A., SPINSANTI P., **PIZZIMENTI S.**, FARACE M.G., DIANZANI M.U., FAZIO V.M. 4-Hydroxynonenal-induced MEL cell differentiation involves PKC activity translocation. *Biochem. Biophys. Res. Commun.*, 272: 75-80, 2000.
- BARRERA G., **PIZZIMENTI S.**, SERRA A., FAZIO V.M., CANUTO R.A., DIANZANI M.U. Effect of bioactive aldehydes on cell proliferation and c-myc expression in HL-60 human leukemic cells. *Cancer Detection and Prevention*, 24: 244-251, 2000.
- **PIZZIMENTI S.**, RINALDI M., FAZIO V. M., BARRERA G. 4-hydroxynonenal: an endogenous signal for cell proliferation and differentiation. *Current Topics in Biochem. Res.*, 4: 71-80, 2001. Review.
- RINALDI M., BARRERA G., SPINSANTI P., **PIZZIMENTI S.**, CIAFRÈ S.A., PARELLA P., FARACE M.G., SIGNORI E., DIANZANI M.U., FAZIO V.M. Growth inhibition and differentiation induction in murine erythroleukemia cells by 4-hydroxynonenal. *Free Rad Res.*, 34: 629-637, 2001.
- **PIZZIMENTI S.**, LAURORA S., BRIATORE F., FERRETTI C., DIANZANI M.U., BARRERA G. Synergistic effect of 4-hydroxynonenal and PPAR ligands in controlling human leukemic cell growth and differentiation. *Free Rad. Biol. Med.*, 32: 233-245, 2002.
- BARRERA G., **PIZZIMENTI S.**, LAURORA S., MORONI E., GIGLIONI B., DIANZANI M.U. 4- hydroxynonenal Affects the Rb/ E2F pathway in HL-60 human leukemic cells. *Biochem. Biophys. Res. Commun.*, 295: 267-275, 2002.
- LAURORA S., **PIZZIMENTI S.**, BRIATORE F., FRAIOLI A., MAGGIO M., REFFO P., FERRETTI C., DIANZANI M.U., BARRERA G. PPAR ligands affect growth-related gene expression in human leukemic cells. *J. Pharmacol. Exp. Ther.*, 2003, 305: 932-942, 2003.
- SERPE L., LAURORA S., **PIZZIMENTI S.**, UGAZIO E., PONTI R., CANAPARO R., BRIATORE F., BARRERA G., GASCO M.R., BERNENGO M.G., EANDI M., ZARA G.P. Cholesteryl butyrate solid lipid nanoparticles as a butyric acid pro-drug: effects on cell proliferation, cell-cycle distribution and c-myc expression in human leukemic cells. *Anti-Cancer Drugs*, 15: 525-536, 2004.
- BARRERA G., **PIZZIMENTI S.**, DIANZANI M.U. 4-hydroxynonenal and regulation of cell cycle: effects on the pRb/ E2F pathway. *Free Rad. Biol. Med.* 37: 597-606, 2004.
- LAURORA S., TAMAGNO E., BRIATORE F., BARDINI P., PIZZIMENTI S., TOALDO C., REFFO P., COSTELLI P., DIANZANI M.U.,

BARRERA G. 4-hydroxynonenal modulation of p53 family gene expression in the SK-N-BE neuroblastoma cells. *Free Rad. Biol. Med.*, 38: 215-25, 2005. .

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- **PIZZIMENTI S.**, BRIATORE F., LAURORA S., TOALDO C., MAGGIO M., DE GRANDI M., MEAGLIA L., MENEGATTI E., GIGLIONI B., DIANZANI M.U., BARRERA G. 4-Hydroxynonenal inhibits telomerase activity and hTERT expression in human leukemic cell lines. *Free Rad. Biol. Med.*, 40: 1578-1591, 2006.
- CERBONE A., TOALDO C., LAURORA S., BRIATORE F., **PIZZIMENTI S.**, DIANZANI M.U., FERRETTI C., BARRERA G. 4-Hydroxynonenal and PPARgamma ligands affect proliferation, differentiation, and apoptosis in colon cancer cells. *Free Radic. Biol. Med.*, 42: 1661-70, 2007..
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- **PIZZIMENTI S.**, BARRERA G., CALZAVARA E., MIRANDOLA L., TOALDO C., DIANZANI M.U., COMI P., CHIARAMONTE R. Down-Regulation of Notch1 Expression is Involved in HL-60 Cell Growth Inhibition Induced by 4-Hydroxynonenal, a Product of lipid peroxidation. *Med Chem.*, 4: 551-557, 2008.
- BARRERA G., **PIZZIMENTI S.**, DIANZANI M.U. Lipid peroxidation: control of cell proliferation, cell differentiation and cell death. *Mol Aspects Med.* 29: 1-8, 2008.
- **PIZZIMENTI S.**, FERRACIN M., SABBIONI S., TOALDO C., PETTAZZONI P., DIANZANI M.U., NEGRINI M., BARRERA G. MicroRNA expression changes during human leukemic HL-60 cell differentiation induced by 4-hydroxynonenal, a product of lipid peroxidation. *Free Radic Biol Med.*, 46: 282-8, 2009.
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- GENTILE F., **PIZZIMENTI S.**, ARCARO A., PETTAZZONI P., MINELLI R., D'ANGELO D., MAMONE G., FERRANTI P., TOALDO C., CETRANGOLO G., FORMISANO S., DIANZANI M.U., UCHIDA K., DIANZANI C., BARRERA G. Exposure of HL-60 human leukaemic cells to 4- hydroxynonenal promotes the formation of adduct(s) with alpha-enolase devoid of plasminogen binding activity. *Biochem J.*, 422: 285-94, 2009.
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- TOALDO C., **PIZZIMENTI S.**, CERBONE A., PETTAZZONI P., MENEGATTI E., BERARDI D., MINELLI R., GIGLIONI B., DIANZANI M.U., FERRETTI C., BARRERA G. PPARγ ligands inhibit telomerase activity and hTERT expression through modulation of the Myc/ Mad/ Max network, in colon cancer cells. *J Cell Mol Med*, 14(6A): 1347-57, 2010.
- PI ZZI MENTI S., TOALDO C., PETTAZZONI P., DIANZANI M.U., BARRERA G. The "Two- Faced" Effects of Reactive Oxygen Species and the Lipid Peroxidation Product 4- Hydroxynonenal in the Hallmarks of Cancer. *Cancers, Special Issue Oxidative Stress and Cancer* 2: 338-363, 2010. doi: 10.3390/cancers2020338.
- PETTAZZONI P., **PIZZIMENTI S.**, TOALDO C., SOTOMAYOR P., TAGLIAVACCA L., LIU S., WANG D., MINELLI R., ELLIS L., ATADJA P., CIAMPORCERO E., DIANZANI M.U., BARRERA G., PILI R. Induction of cell cycle arrest and DNA damage by the HDAC inhibitor panobinostat (LBH589) and the lipid peroxidation end product 4-hydroxynonenal in prostate cancer cells. *Free Radic Biol Med.* 50: 313-22, 2011.
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- CERBONE A., TOALDO C., **PIZZIMENTI S.**, PETTAZZONI P., DIANZANI C., MINELLI R., CIAMPORCERO E., ROMA G., DIANZANI M.U., CANAPARO R., FERRETTI C., BARRERA G. AS601245, an anti-inflammatory JNK inhibitor, and clofibrate have a synergistic effect in inducing cell responses and in affecting the gene expression profile, in CaCo-2 colon cancer cells.. *PPAR Res*. 2012: 269751, 2012. I.F. 2.935 .
- PIZZIMENTI S., CIAMPORCERO E., PETTAZZONI P., OSELLA-ABATE S., NOVELLI M., TOALDO C., HUSSE M., DAGA M., MINELLI R., BISAZZA A., FERRUTI P., RANUCCI E., BERNENGO M.G., DIANZANI C., BIASI F., CAVALLI R., BARRERA G. The inclusion complex of 4-hydroxynonenal with a polymeric derivative of B-cyclodextrin enhances the antitumoralefficacyof the aldehyde in several tumor cell lines and in a three-dimensional human melanoma model. *Free Radic Biol Med*. 65: 765-777, 2013.
- **PIZZIMENTI S.**, CIAMPORCERO E., DAGA M., PETTAZZONI P., ARCARO A., CETRANGOLO G., MINELLI R., DIANZANI C., LEPORE A., GENTILE F., BARRERA G. (2013). Interaction of aldehydes derived from lipid peroxidation and membrane proteins. *Front Physiol*. 2013; 4: 242. I.F. 4.031
- BARRERA G., **PIZZIMENTI S.**, CIAMPORCERO E.S., DAGA M., ULLIO C., ARCARO A., CETRANGOLO G.P., FERRETTI C., DIANZANI C., LEPORE A., GENTILE F. Role of 4- Hydroxynonenal-Protein Adducts in Human Diseases. *Antioxid Redox Signal*. 2015; 22: 1681-1702.
- STEIMBERG N., MAZZOLENI G., CIAMPORCERO E.S., ULLIO C., DAGA M., BARRERA G., **PIZZIMENTI S.** In Vitro Modeling of Tissue-Specific 3D Microenvironments and Possibile Application to Pediatric Cancer Research. *Journal of Pediatric Oncology*, 2014 vol. 2, p. 40-76, ISSN: 2309-3021, doi: 10.14205/ 2309-3021.2014.02.01.5
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- **PIZZIMENTI S.**, DAGA M., CIAMPORCERO E., TOALDO C., PETTAZZONI P., OSELLA-ABATE S., NOVELLI M., MINELLI R., BISAZZA A., GAMBA P., TESTA G., ULLIO C., FERRUTI P., RANUCCI E., BERNENGO M.G., FERRETTI C., DIANZANI C., BIASI F., BARRERA G., CAVALLI R. Improved Anti-Tumoral Therapeutic Efficacy of 4-Hydroxynonenal Incorporated in Novel Lipid Nanocapsules in 2D and 3D Models. *J Biomed Nanotechnol*. 11: 2169-2185, 2015.
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- BARRERA G., GENTILE F., **PIZZIMENTI S.**, CANUTO R.A., DAGA M., ARCARO A., CETRANGOLO G.P., LEPORE A., FERRETTI C., DIANZANI C., MUZIO G. Mitochondrial Dysfunction in Cancer and Neurodegenerative Diseases: Spotlight on Fatty Acid Oxidation and Lipoperoxidation Products. *Antioxidants (Basel)*. 2016; 19 ; 5(1). pii: E7. doi:10.3390/ antioxid5010007. ISSN: 2076-3921.
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induced toxicity "in vitro" and "in vivo" in cancer cells with high antioxidant defenses. *Free Radic Biol Med.* 97: 24-37, 2016..

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