

Curriculum Vitae

Personal information

First name(s) **Paolo Bonvini**
Surname(s)

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Nationality Italian
Date of birth 17 December 1968
Gender Male

Work experience

Dates **2012-present**

Position held and main activities Senior research investigator at Laboratory of Pediatric non-Hodgkin's lymphomas and Solid Tumours, Hematology and Oncology Clinic of Paediatrics. Preclinical pharmacology and drug-resistance mechanisms; cancer biomarkers discovery.

Name and address of employer **Istituto Ricerca Pediatrica Città della Speranza (IRP-CDS), c.so Stati Uniti 4F, Padova**

Type of business or sector Paediatric Haematology and Oncology

Dates **2009-2012**

Position held and main activities Research investigator, Laboratory of Pediatric non-Hodgkin's lymphomas and Solid Tumours, Hematology and Oncology Clinic of Paediatric. Preclinical pharmacology and drug-resistance mechanisms: *in silico* design, development and testing of anti-cancer drugs

Name and address of employer **Fondazione Città della Speranza, Hospital-University of Padova Via Chiesa 27, Malo, Vicenza**

Type of business or sector	Paediatric Haematology and Oncology
Dates	2005-2008
Position held and main activities	Research investigator, Laboratory of Paediatric non-Hodgkin's lymphomas and Solid Tumours, Haematology and Oncology Clinic of Paediatrics. Research activity in mechanisms of oncogene addiction and non-oncogene addiction.
Name and address of employer	Istituto Oncologico Veneto, IOV-IRCSS, Padova. Via Gattamelata 64, Padova
Type of business or sector	Paediatric Haematology and Oncology
Dates	2003-2005
Position held and main activities	Research fellow, Laboratory of Paediatric non-Hodgkin's lymphomas and Solid Tumours, Haematology and Oncology Clinic of Paediatrics. Research activity in oncogene expression and mutation in paediatric cancer
Name and address of employer	Hospital-University of Padova Via Giustiniani 3, Padova
Type of business or sector	Paediatric Haematology and Oncology
Dates	1999-2002
Position held and main activities	Junior Research Fellow, Haematology and Oncology Clinic, Dept. of Paediatrics, University of Padova, Italy. Research activities in cancer pathophysiology
Name and address of employer	Hospital-University of Padova Via Giustiniani 3, Padova
Type of business or sector	Paediatric Haematology and Oncology
Dates	1996-1999
Position held and main activities	Visiting Research Fellow at NIH, Medicine Branch, NCI, Bethesda, MD 20892, USA Research activity in cancer biology, signal transduction and drug response
Name and address of employer	National Institutes of Health (NIH), National Cancer Institute (NCI), Bethesda (MD), USA
Type of business or sector	Preclinical pharmacology and signalling in cancer biology

Dates	1993-1995
Position held and main activities	Internship, Hematology and Oncology Clinic, Dept. of Pediatrics, University of Cancer research activity in Soft Tissue Sarcomas of the childhood.
Name and address of employer	University of Padova
Type of business or sector	Paediatric Haematology and Oncology
Education and training	<p>Febr.2008 Specialization in Medical Genetics: Mutational Status of NPM-ALK kinase and Functional Consequences on its oncogenic activity</p> <p>2003.2007 Intern Student of Medical Genetics, School of Medicine, University of Padova, Italy</p> <p>1999-2002 Research Doctorate in Oncological Sciences of the Childhood, University of Padova, Italy. Ph.D. dissertation: Role of HSP90 and HSP70 chaperones in NPM-ALK folding and activity in CD30⁺ ALCL cells.</p> <p>1996-1999 Fogarty Fellow, Tumour Cell Biology Section, Medicine Branch, NCI, National Institutes of Health, Bethesda, MD 20892, USA.</p> <p>1993-1995 AIL (Associazione Italiana contro le Leucemie, Italian Leukemia Association) junior Fellow at the Hematology and Oncology Clinic, Dept. of Pediatrics, University of Padova, and admission to the Italian Order of Biologists.</p> <p>1987-93 School of Biological Sciences, University of Padova, Italy Graduation in Biology. Doctoral dissertation: “Adenine Nucleotides Metabolism in Mammalian Cell Lines” (Prof. V. Bianchi and Prof. Peter Reichard).</p>
Principal subjects covered	<p><u>Research and interests in Oncology:</u></p> <p><u>Cancer Biomarkers:</u> proteomic and transcriptomic-based biomarkers in cancer; biomarkers for the prognosis, treatment and progression of childhood cancers.</p> <p><u>Cancer Pathophysiology:</u> oncogenes and tumor suppressors; identification of novel novel pathways and regulators of cell transformation; cancer cell cycle and check points; mechanisms of drug resistance; tumor microenvironment interactions and cancer immunomodulation; tumor Immunology and immunotherapy</p> <p><u>Anticancer Drug Discovery:</u> serine/threonine and tyrosine kinase inhibitors; cell cycle and checkpoint inhibitors; proteasome and ubiquitin-related pathway inhibitors; apoptosis inducers; stress response and heat shock protein inhibitors.</p>
Principal skills covered	<p><u>Laboratory experience in Oncology:</u></p> <ul style="list-style-type: none"> - Tissue and cell culture techniques with stabilized cell lines and primary cell cultures. - Molecular and cellular biology techniques applied to cancer proteomic: cell lysis and subfractionation; protein extraction, quantification and purification; protein conjugation with site-specific antibodies, fluorophores and radionucleotides; protein expression analysis by western blotting, fluorescence microscopy and immunohisto/cytochemistry - Molecular and cellular biology techniques applied to cancer genomic: DNA/RNA extraction and analysis from cell lines, primary cultures and blood cells by RT-PCR and qRT-PCR

- Protein microarray, antibody array
- Bacterial cells manipulation and transformation
- Stable and transient transfection of mammalian/human cells
- New technologies for anticancer therapeutics
- Animal models.

Publications

Author of several full papers published mostly on international scientific journal and of many abstract and oral presentations at national and international meetings.

1. Bianchi, V., Borella, S., Ferraro, P., **Bonvini, P.** and Reichard, P. *Effects of Mutational Loss of Nucleoside Kinase on Deoxyadenosine 5'-Phosphate/Deoxyadenosine Substrate Cycle in Cultured CEM and V79 Cells.* J. Biol. Chem.(1994) 269: 16677-16683
2. **Bonvini, P.**, Nguyen, P., Trepel, J. and Neckers, L.M.. *In vivo Degradation of N-myc in Neuroblastoma Cells is Mediated by the 26S Proteasome.* *Oncogene* (1998) 16: 1131-1139
3. Mimnaugh, E.G., **Bonvini, P.** and Neckers, L.M. *The Measurement of Ubiquitin and Ubiquitinated Proteins.* Electrophoresis.(1999) 20: 418-428
4. **Bonvini, P.**, Hwang, D.-G., El-Gamil, M., Robbins, P., Neckers, L.M. and Trepel, J. *Melanoma Cell Lines Contain a Proteasome-Sensitive, Nuclear Cytoskeleton-Associated Pool of β -catenin.* *Ann. N.Y. Acad. Sci.* (1999) 886: 208-211.
5. **Bonvini, P.**, Hwang, S.-G., El-Gamil, M., Robbins, P., Kim, J.-S., Trepel, J. and Neckers, L.M. *Nuclear β -catenin displays GSK-3 β - and APC-independent proteasome sensitivity in melanoma cells.* Biochem. Et Biophys. Acta (2000) 1495: 308-318
6. Mimnaugh, E.G., Yumbam, M.K., Li, Q., **Bonvini, P.**, Hwang, S.-G., Trepel, J. and Neckers, L.M. *Proteasome Inhibition Blocks Repair of Cisplatin-DNA Adducts in Human Ovarian Carcinoma Cells.* *Biochem. Pharm.* (2000) 60: 1343-54.
7. **Paolo Bonvini**, Won G. An, Angelo Rosolen, Phongmai Nguyen, Jane Trepel, Antonio Garcia de Herreros, Mireia Dunach and Leonard M. Neckers. *Geldanamycin abrogates ErbB2 association with proteasome-resistant β -catenin in melanoma cells, increases β -catenin-E-cadherin association, and decreases β -catenin-sensitive transcription.* Cancer Res. (2001) 61: 1671-77
8. **Paolo Bonvini**, Tamara Gastaldi, Brunangelo Falini and Angelo Rosolen. *NPM-ALK, a Novel HSP90-Client Tyrosine Kinase: Down-regulation of NPM-ALK Expression and Tyrosine Phosphorylation in ALK⁺ CD30⁺ Lymphoma Cells, by the HSP90 Antagonist 17-Allylamino,17-demethoxygeldanamycin.* Cancer Res. (2002) 62: 1559-1566
9. Eun Joo Chung, Sang-Gu Hwang, PhuongMai Nguyen, Jung-Sik Kim, Jin Woo Kim, Pierre A. Henkart, Donald P. Bottaro, Lilian Soon, **Paolo Bonvini**, Su-Jae Lee, Ho Jung Oh, Jeffrey S. Rubin and Jane B. Trepel. *Regulation of Leukemic Cell Adhesion, Proliferation and Survival by β -Catenin.* Blood (2002) 100: 982-990

10. **Bonvini P**, Dalla Rosa H, Vignes N, Rosolen A. *Ubiquitination and Proteasomal Degradation of Nucleophosmin-Anaplastic Lymphoma Kinase Induced by 17-Allylamino-Demethoxygeldanamycin: Role of the Co-Chaperone Carboxyl Heat Shock Protein 70-Interacting Protein.* Cancer Res. (2004) 64: 3256-3264
11. Giorgio Cozza, **Paolo Bonvini**, Elisa Zorzi, Giorgia Poletto, Mario A. Pagano, Stefania Sarno, Arianna Donella-Deana, Giuseppe Zagotto, Angelo Rosolen, Lorenzo A. Pinna, Flavio Meggio and Stefano Moro. *Identification of ellagic acid as potent inhibitor of protein kinase CK2: a successful example of a virtual screening application.* J.Med.Chem. (2006) 49:2363-2366
12. Tamara Gastaldi, **Paolo Bonvini**, Francesca Sartori, Agnese Marrone, Giovanni Esposito, Achille Iolascon and Angelo Rosolen. *Plakoglobin is differentially expressed in alveolar and embryonal rhabdomyosarcoma and is regulated by DNA methylation and histone acetylation.* Carcinogenesis (2006) 27: 1757-1768
13. **Paolo Bonvini**, Elisa Zorzi, Giuseppe Basso and Angelo Rosolen. *Bortezomib-mediated 26S proteasome inhibition causes cell-cycle arrest and induces apoptosis in CD-30(+) anaplastic large cell lymphoma.* Leukemia (2007) 21: 838-842
14. Mussolin Lara, **Paolo Bonvini**, Ait-Tahar, Marta Pillon, Gloria Tridello, Stefania Buffardi, Angelo Lombardi, Karen Pulford, Angelo Rosolen. *Kinetics of humoral response to ALK and its relationship with minimal residual disease in pediatric ALCL.* Leukemia (2009) 23: 400-402
15. **Paolo Bonvini**, Elisa Zorzi, Lara Mussolin, Giovanni Monaco, Martina Pigazzi, Giuseppe Basso, Angelo Rosolen. *The effect of the cyclin-dependent kinase inhibitor flavopiridol on anaplastic large cell lymphoma cells and relationship with NPM-ALK kinase expression and activity.* Haematologica (2009) 94: 944-955
16. Cozza G, Gianoncelli A, **Bonvini P**, et al. *Urolithin as a converging scaffold linking ellagic acid and coumarin analogues: design of potent protein kinase CK2 inhibitors.* ChemMedChem. 2011 Dec 9;6(12):2273-86
17. **Bonvini P**, Zorzi E, Mussolin L, et al. *Consequences of heat shock protein 72 (Hsp72) expression and activity on stress-induced apoptosis in CD30+ NPM-ALK+ anaplastic large-cell lymphomas.* Leukemia. 2012 Jun;26(6):1375-82
18. Marica Peron, **Paolo Bonvini**, Angelo Rosolen. *Effect of inhibition of the ubiquitin-proteasome system and Hsp90 on growth and survival of rhabdomyosarcoma cells in vitro.* BMC Cancer 2013; 12:233
19. Emanuele SG d'Amore, Carlo Visco, Andrea Menin, Barbara Famengo, **Paolo Bonvini**, Elena Lazzari. *STAT3 pathway is activated in ALK-positive Large B-cell Lymphoma carrying SQSTM1-ALK rearrangement and provides a possible therapeutic target.* Am J Sur Pathol; 2013 May; 37 (5):780-86

20. **Bonvini P**, Zin A, Alaggio R, Pawel B, Bisogno G, Rosolen A. High ALK mRNA expression has a negative prognostic significance in rhabdomyosarcoma. Br J Cancer. 2013 Dec 10;109(12):3084-91.
21. Lovisa F, Cozza G, Cristiani A, Cuzzolin A, Albiero A, Mussolin L, Pillon M, Moro S, Basso G, Rosolen A, **Bonvini P**. ALK kinase domain mutations in primary anaplastic large cell lymphoma: consequences on NPM-ALK activity and sensitivity to tyrosine kinase inhibitors. PLoS One. 2015 Apr 13;10(4) 25874976
22. Peron M, Lovisa F, Poli E, Basso G, **Bonvini P**. Understanding the Interplay between Expression, Mutation and Activity of ALK Receptor in Rhabdomyosarcoma Cells for Clinical Application of Small-Molecule Inhibitors. PLoS One. 2015 Jul 6;10(7)
23. Gasparini P, Casanova M, Villa R., Collini, Alaggio R, Zin A, **Bonvini P**, Antonescu C.R., Boldrini R., Caserini R, Moro M, Meazza C, Massimino M, Chiaravalli S, Luksch R, Zaffaroni N, Daidone MG, Sozzi G and Ferrari A. ALK gene copy number gain and protein expression correlate with metastatic features in pediatric rhabdomyosarcoma. Oncotarget [accepted]

Affiliations

Member of the American Association for Cancer Research (AACR)
 Member of the Italian Society of Pediatric Hematology and Oncology (AIEOP)
 Member of the Italian Society of Biology (ONB)

Honours and Recognitions

Fogarty International Fellowship (1996-1999).
 EMBO Travelling Award (2001).

Technical skills and competences

Pharmaceutical Material Transfer Agreements (MTA):

- 2002- Conforma Therapeutics Corporation (San Diego, CA, USA) : 17-AAG [EC5; EC24]
- 2004- Millenium Pharmaceuticals Inc. (Cambridge, MA, USA): Velcade, [NSC681239]
- 2004 - ST. Jude Children's Hospital
- 2005 - NIH/Sanofi-Aventis (Bridgewater, NJ, USA) : Flavopiridol [NSC649890]
- 2014 - IGNYTA Operating Inc. (San Diego, CA, USA) : RXDX-101

**Personal skills
and competences**

Mother tongue(s)

Italian

Other language(s)
Self-assessment
European level ()*

English

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	Advanced user	C2	Advanced user	C1	Advanced user	C1	Advanced user	C1	Advanced user

(*) [*Common European Framework of Reference for Languages*](#)

Signature

Bonvini Paolo