

Curriculum vitae
FRANCESCA BERSANI

Personal details

Born in: MONCALIERI (TO)
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Education

01/2007-01/2011 PhD in Molecular Medicine, Program of Biochemistry and Cellular Biotechnology, University of Torino, Italy, and Rockefeller University, New York, NY, USA
10/2004-07/2006 MSc Degree in Molecular Biotechnology, summa cum laude, University of Torino, Italy
10/2001-07/2004 BSc Degree in Biotechnology, summa cum laude, University of Torino, Italy

Professional experiences and current position

07/2021-present Assistant Professor of Biochemistry, Department of Oncology, University of Torino, Italy
10/2014-06/2021 R&D Staff Scientist, Research Center, Società Metropolitana Acque Torino, Italy
07/2011-10/2014 Research Fellow in Medicine, Massachusetts General Hospital Cancer Center, Harvard Medical School, Boston, MA, USA (Laboratory of Cancer Genetics – PI: Daniel A. Haber, MD, PhD)
01/2011-06/2011 Post-doctoral Fellow, Center for Experimental Research and Medical Studies (CeRMS), University of Torino, Italy (Laboratory of Molecular Biology – PI: Carola Ponzetto, PhD)

Honors

2024: Best Short Talk Communication, Società Italiana di Biochimica e Biologia Molecolare, Gruppo Biochimica dei Tumori, Catania, Italy
2010: XXII Pezcoller-Begnudelli Award, Pezcoller Foundation, Trento, Italy
2009: XXI Pezcoller-Begnudelli Award, Pezcoller Foundation, Trento, Italy
2007: EMBO Short Term Fellowship, European Molecular Biology Organization
2005: Best scientific presentation, Fondazione per le Biotecnologie, Torino, Italy

Teaching activity:

2022-present: Biochemistry (BSc Degree in Biotechnology, University of Torino, Italy)
2022-present: Biochemistry (MSc Degree in Molecular Biotechnology, University of Torino, Italy)
2022-present: Nutritional Biochemistry (BSc Degree in Dietetics, University of Torino, Italy)
2022-2023: Translational Biochemistry in Oncology (MSc Degree in Medical Biotechnology, University of Torino, Italy)

Research main topics

Lung cancer
Mechanisms of acquired resistance and cell plasticity
Circulating tumor cells
Liquid biopsy
Non-coding RNAs
Repeated elements

Main projects as PI

Molecular and functional characterization of circulating tumor cells in lung cancer
Investigating the molecular features of neuroendocrine transformation in lung cancer
Studying repeat elements in the pathogenesis of small cell lung cancer

Bibliometry (2005-present) (www.scopus.com)

H index: 20
Total number of citations: 3280
Total number of publications in peer-review journals: 36

Publications

1. F. Picca, C. Giannotta, J. Tao, L. Giordanengo, H.M.W. Munir, V. Botta, A. Merlini, A. Mogavero, E. Garbo, S. Poletto, P. Bironzo, G. Doronzo, S. Novello, R. Taulli, **F. Bersani**. From Cancer to Immune Organoids: Innovative Preclinical Models to Dissect the Crosstalk between Cancer Cells and the Tumor Microenvironment. *Int J Mol Sci* 25(19):10823 (2024).
2. C. Modica, M. Cortese, **F. Bersani**, A. M. Lombardi, F. Napoli, L. Righi, R. Taulli, C. Basilico, E. Vigna. Genetic ablation of the MET oncogene defines a crucial role of the HGF/MET axis in cell-autonomous functions driving tumor dissemination. *Cancers* 15(10):2742 (2023).
3. **F. Bersani**, F. Picca, D. Morena, L. Righi, F. Napoli, M. Russo, D. Oddo, G. Rospo, C. Negrino, B. Castella, M. Volante, A. Listì, V. Zambelli, F. Benso, F. Tabbò, P. Bironzo, E. Monteleone, V. Poli, F. Pietrantonio, F. Di Nicolantonio, A. Bardelli, C. Ponzetto, S. Novello, G. V. Scagliotti, R. Taulli. Exploring circular MET RNA as a potential biomarker in tumors exhibiting high MET activity. *J Exp Clin Cancer Res* 42(1):120 (2023).
4. G. Toyokawa*, **F. Bersani***, P. Bironzo, F. Picca, F. Tabbò, N. Haratake, T. Takenaka, T. Seto, T. Yoshizumi, S. Novello, G. V. Scagliotti, R. Taulli. Tumor plasticity and therapeutic resistance in oncogene-addicted non-small cell lung cancer: from preclinical observations to clinical implications. *Crit Rev Oncol Hematol* 184:103966 (2023).
*equal contribution
5. **F. Bersani**, D. Morena, F. Picca, A. Morotti, F. Tabbò, P. Bironzo, L. Righi, R. Taulli. Future perspectives from lung cancer pre-clinical models: new treatments are coming? *Transl Lung Cancer Res* 9(6):2629-2644 (2020).
6. A. Bologna, M. Fasano, L. Bergamasco, M. Morciano, **F. Bersani**, P. Asinari, L. Meucci, E. Chiavazzo. Techno-economic analysis of a solar thermal plant for large-scale water pasteurization. *Appl Sci* 10:4771 (2020).
7. S. Amalfitano, C. Levantesi, D. Copetti, F. Stefani, I. Locantore, V. Guarnieri, C. Lobascio, **F. Bersani**, D. Giacosa, E. Detsis, S. Rossetti. Water and microbial monitoring technologies towards the near future space exploration. *Water Res* 177:115787 (2020).
8. E. Burzio, **F. Bersani**, G. C. A. Caridi, R. Vesipa, L. Ridolfi, C. Manes. Water disinfection by orifice-induced hydrodynamic cavitation. *Ultrason Sonochem* 60:104740 (2019).
9. M. Ligorio, S. Sil, J. Malagon-Lopez, L. T. Nieman, S. Misale, M. Di Pilato, R. Y. Ebright, M. N. Karabacak, A. S. Kulkarni, A. Liu, N. Vincent Jordan, J. W. Franses, J. Philipp, J. Kreuzer, N. Desai, K. S. Arora, M. Rajurkar, E. Horwitz, A. Neyaz, E. Tai, N. K. C. Magnus, K. D. Vo, C. N. Yashaswini, F. Marangoni, M. Boukhali, J. P. Fatherree, L. J. Damon, K. Xega, R. Desai, M. Choz, **F. Bersani**, A. Langenbucher, V. Thapar, R. Morris, U. F. Wellner, O. Schilling, M. S. Lawrence, A. S. Liss, M. N. Rivera, V. Deshpande, C. H. Benes, S. Maheswaran, D. A. Haber, C. Fernandez-Del-Castillo, C. R. Ferrone, W. Haas, M. J. Aryee, D. T. Ting. Stromal microenvironment shapes the intratumoral architecture of pancreatic cancer. *Cell* 178(1):160-175.e27 (2019).
10. S. Amalfitano, C. Levantesi, L. Garrelly, D. Giacosa, **F. Bersani**, S. Rossetti. Water quality and total microbial load: a double-threshold identification procedure intended for space applications. *Front Microbiol* 9:2903 (2018).
11. **F. Bersani**, D. Morena, R. Taulli. MicroRNA shuttling impacts on cholangiocarcinoma pathogenesis. *Non-coding RNA Investigation* 2:48 (2018).
12. R. Kase, B. Javurkova, E. Simon, K. Swart, S. Buchinger, S. Könnemann, B. I. Escher, M. Carere, V. Dulio, S. Ait-Aissa, H. Hollert, S. Valsecchi, S. Polesello, P. Behnisch, C. di Paolo, D. Olbrich, E. Sychrova, M. Gundlach, R. Schlichting, L. Leborgne, M. Clara, C. Scheffknecht, Y. Marneffe, C. Chalon, P. Tusil, P. Soldan, B. von Danwitz, J. Schwaiger, A. Moran Palao, **F. Bersani**, O. Perceval, C. Kienle,

- E. Vermeirssen, K. Hilscherova, G. Reifferscheid, I. Werner. Screening and risk management solutions for steroidal estrogens in surface and wastewater. *Trends in Analytical Chemistry* 102:343-58 (2018).
13. S. Könemann, R. Kase, E. Simon, K. Swart, S. Buchinger, M. Schlüsener, H. Hollert, B. I. Escher, I. Werner, S. Ait-Aïssa, E. Vermeirssen, V. Dulio, S. Valsecchi, S. Polesello, P. Behnisch, B. Javurkova, O. Perceval, C. Di Paolo, D. Olbrich, E. Sychrova, R. Schlichting, L. Leborgne, M. Clara, C. Scheffknecht, Y. Marneffe, C. Chalon, P. Tušil, P. Soldán, B. von Danwitz, J. Schwaiger, M. I. San Martín Becares, **F. Bersani**, K. Hilscherova, G. Reifferscheid, T. Ternes, M. Carere. Effect-based and chemical analytical methods to monitor estrogens under the European Water Framework Directive. *Trends in Analytical Chemistry* 102:225-35 (2018).
 14. N. Aceto, A. Bardia, B. S. Wittner, M. C. Donaldson, R. O'Keefe, A. Engstrom, **F. Bersani**, Y. Zheng, V. Comaills, K. Niederhoffer, H. Zhu, O. Mackenzie, T. Shioda, D. Sgroi, R. Kapur, D. T. Ting, S. Ramaswamy, M. Toner, D. A. Haber, S. Maheswaran. AR expression in breast cancer CTCs associates with bone metastases. *Mol Cancer Res* 16(4):720-727 (2018).
 15. **F. Bersani**, M. F. Lingua, D. Morena, V. Foglizzo, S. Miretti, L. Lanzetti, G. Carrà, A. Morotti, U. Ala, P. Provero, R. Chiarle, S. Singer, M. Ladanyi, T. Tuschl, C. Ponzetto, R. Taulli. Deep sequencing reveals a novel miR-22 regulatory network with therapeutic potential in rhabdomyosarcoma. *Cancer Res* 76(20):6095-6106 (2016).
 16. L. Indolfi, M. Ligorio, D. T. Ting, K. Xega, A. R. Tzafiriri, **F. Bersani**, N. Aceto, V. Thapar, B. C. Fuchs, V. Deshpande, A. B. Baker, C. R. Ferrone, D. A. Haber, R. Langer, J. W. Clark, E. R. Edelman. A tunable delivery platform to provide local chemotherapy for pancreatic ductal adenocarcinoma. *Biomaterials* 93:71-82 (2016).
 17. D. Morena, N. Maestro, **F. Bersani**, P.E. Forni, M.F. Lingua, V. Foglizzo, P. Šćepanović, S. Miretti, A. Morotti, J.F. Shern, J. Khan, U. Ala, P. Provero, V. Sala, T. Crepaldi, P. Gasparini, M. Casanova, A. Ferrari, G. Sozzi, R. Chiarle, C. Ponzetto, R. Taulli. Hepatocyte Growth Factor-mediated satellite cells niche perturbation promotes development of distinct sarcoma subtypes. *eLife* 5:e12116 (2016).
 18. **F. Bersani**, E. Lee, P. V. Kharchenko, A. W. Xu, M. Liu, K. Xega, O. C. MacKenzie, B. W. Brannigan, B. S. Wittner, H. Jung, S. Ramaswamy, P. J. Park, S. Maheswaran, D. T. Ting, D. A. Haber. Pericentromeric satellite repeat expansions through RNA-derived DNA intermediates in cancer. *Proc Natl Acad Sci USA* 112:15148-53 (2015).
 19. D. M. Coda, M. F. Lingua, D. Morena, V. Foglizzo, **F. Bersani**, U. Ala, C. Ponzetto, R. Taulli. Smyd1 And G6Pd Modulation Are Critical events for mir-206-mediated differentiation of rhabdomyosarcoma. *Cell Cycle* 14:1389-402 (2015).
 20. R. L. Flynn, K. E. Cox, M. Jeitany, H. Wakimoto, A. R. Bryll, N. J. Ganem, **F. Bersani**, J. R. Pineda, M. L. Suva, C. H. Benes, D. A. Haber, F. D. Boussin, L. Zou. Alternative lengthening of telomeres renders cancer cells hypersensitive to ATR inhibitors. *Science* 347:273-77 (2015).
 21. **F. Bersani**, J. Lee, M. Yu, R. Morris, R. Desai, S. Ramaswamy, M. Toner, D. A. Haber, B. Parekkadan. Bioengineered implantable scaffolds as a tool to study stromal-derived factors in metastatic cancer models. *Cancer Res* 74:7229-38 (2014).
 22. D. T. Ting, B. S. Wittner, M. Ligorio, N. V. Jordan, A. M. Shah, D. T. Miyamoto, N. Aceto, **F. Bersani**, B. W. Brannigan, K. Xega, J. C. Ciciliano, H. Zhu, O. C. MacKenzie, J. Trautwein, K. S. Arora, M. Shahid, H. L. Ellis, N. Qu, N. Bardeesy, M. N. Rivera, V. Deshpande, C. R. Ferrone, R. Kapur, S. Ramaswamy, T. Shioda, M. Toner, S. Maheswaran, D. A. Haber. Single cell RNA-sequencing identifies extracellular matrix gene expression by pancreatic circulating tumor cells. *Cell Rep* 8:1905-18 (2014).
 23. M. Yu, A. Bardia, N. Aceto, **F. Bersani**, M. W. Madden, M. C. Donaldson, R. Desai, H. Zhu, V. Comaills, Z. Zheng, B. S. Wittner, P. Stojanov, E. Brachtel, D. Sgroi, R. Kapur, T. Shioda, D. T. Ting, S. Ramaswamy, G. Getz, A. J. Iafrate, C. Benes, M. Toner, S. Maheswaran, D. A. Haber. Ex vivo culture of circulating breast tumor cells for individualized testing of drug susceptibility. *Science* 345:216-20 (2014).

24. R. Taulli, V. Foglizzo, D. Morena, D. M. Coda, U. Ala, **F. Bersani**, N. Maestro, C. Ponzetto. Failure to downregulate the BAF53a subunit of the SWI/SNF chromatin remodeling complex contributes to the differentiation block in rhabdomyosarcoma. *Oncogene* 33:2354-62 (2014).
25. M. Liu, A. Roth, M. Yu, R. Morris, **F. Bersani**, M. N. Rivera, J. Lu, T. Shioda, S. Vasudevan, S. Ramaswamy, S. Maheswaran, S. Diederichs, D. A. Haber. The IGF2 intronic miR-483 selectively enhances transcription from IGF2 fetal promoters and enhances tumorigenesis. *Genes Dev* 27:2543-48 (2013).
26. J. Lee, J. B. Wang, **F. Bersani**, B. Parekkadan. Capture and printing of fixed stromal cell membranes for bioactive display on PDMS surfaces. *Langmuir* 29:10611-6 (2013).
27. P. Accornero, S. Miretti, **F. Bersani**, E. Quaglino, E. Martignani, M. Baratta. Met receptor acts uniquely for survival and morphogenesis of EGFR-dependent normal mammary epithelial and cancer cells. *PLoS One* 7:e44982 (2012).
28. S. Miretti, E. Martignani, R. Taulli, **F. Bersani**, P. Accornero, M. Baratta. Differential expression of microRNA-206 in skeletal muscle of female Piedmontese and Friesian cattle. *Vet J* 190:412-3 (2011).
29. R. Taulli, **F. Bersani**, C. Ponzetto. Micro-orchestrating differentiation in cancer. *Cell Cycle* 9:918-22 (2010).
30. R. Taulli*, **F. Bersani***, V. Foglizzo, A. Linari, E. Vigna, M. Ladanyi, T. Tuschl, C. Ponzetto. The muscle-specific microRNA miR-206 blocks human rhabdomyosarcoma growth in xenotransplanted mice by promoting myogenic differentiation. *J Clin Invest* 119:2366-78 (2009).

*equal contribution

31. P. Accornero, G. Lattanzio, T. Mangano, R. Chiarle, R. Taulli, **F. Bersani**, P. E. Forni, S. Miretti, C. Scuoppo, W. Dastru, J. G. Christensen, T. Crepaldi, C. Ponzetto. An in vivo model of Met-driven lymphoma as a tool to explore the therapeutic potential of Met inhibitors. *Clin Cancer Res* 14:2220-6 (2008).
32. **F. Bersani**, R. Taulli, P. Accornero, A. Morotti, S. Miretti, T. Crepaldi, C. Ponzetto. Bortezomib-mediated proteasome inhibition as a potential strategy for the treatment of rhabdomyosarcoma. *Eur J Cancer* 44:876-84 (2008).
33. C. Scuoppo, I. Riess, M. Schmitt-Ney, P. Allegra, P. E. Forni, **F. Bersani**, R. Taulli, P. Accornero, T. Crepaldi, C. Ponzetto. The oncogenic transcription factor PAX3-FKHR can convert fibroblasts into contractile myotubes. *Exp Cell Res* 313:2308-17 (2007).
34. T. Crepaldi, **F. Bersani**, C. Scuoppo, P. Accornero, C. Prunotto, R. Taulli, P. E. Forni, C. Leo, R. Chiarle, J. Griffiths, D. J. Glass, C. Ponzetto. Conditional activation of MET in differentiated skeletal muscle induces atrophy. *J Biol Chem* 282:6812-22 (2007).
35. R. Taulli, C. Scuoppo, **F. Bersani**, P. Accornero, P. E. Forni, S. Miretti, A. Grinza, P. Allegra, M. Schmitt-Ney, T. Crepaldi, C. Ponzetto. Validation of met as a therapeutic target in alveolar and embryonal rhabdomyosarcoma. *Cancer Res* 66:4742-9 (2006).
36. R. Taulli, P. Accornero, A. Follenzi, T. Mangano, A. Morotti, C. Scuoppo, P. E. Forni, **F. Bersani**, T. Crepaldi, R. Chiarle, L. Naldini, C. Ponzetto. RNAi technology and lentiviral delivery as a powerful tool to suppress Tpr-Met-mediated tumorigenesis. *Cancer Gene Ther* 12:456-63 (2005).