

## PERSONAL INFORMATION



## FRANCESCA ORSO

✉ [francesca.orso@unito.it](mailto:francesca.orso@unito.it)  
[francescaorso@libero.it](mailto:francescaorso@libero.it)

ORCID ID: <https://orcid.org/0000-0003-4706-6464>

WOS ID: [B-1985-2014](#)

SCOPUS ID: 6507801850

Sex F | Date of birth 11/10/1976 | Nationality Italian

## PERSONAL STATEMENT

I am currently a Post-Doctoral Fellow at the Department of Molecular Biotechnology and Health Sciences, Molecular Biotechnology Center (MBC), University of Torino. Since the very beginning of my career (2000), I focused my research on tumorigenesis. During my PhD, I studied the role of transcription factor AP-2 in tumors and in neurons using biochemistry, molecular and cellular technologies. Later, during my Post-Doctoral training I kept working on tumor progression, focusing on the study of miRNAs (miRs) involved in tumor dissemination, in particular in melanoma and breast cancer. On this topic we published various papers showing the relevant roles of miR-214 and miR-148b in melanoma metastasis formation via the regulation of a specific pathway. More recently, I generated mouse models for the overexpression of miR-214 in vivo. These models will allow us to investigate the therapeutic potential of miR-214. In parallel, I am working on the development of anti-/pre-miRNA based therapeutic approaches to block and control tumor progression in a specific way targeting tumor cells only by using chimeric aptamers. During these years, I acquired strong ability in coordinating a research team (under-graduate, PhD students and post-docs), in establishing scientific collaborations as well as in lab management (lab supplies, instrument maintenance).

## WORK EXPERIENCE

---

**2015-present** Post-doc Fellow (MIUR Fellowship, UniTO Fellowship), Dept. Molecular Biotechnology and Health Sciences, (Prof. D. Taverna's lab), MBC, University of Torino, Italy. Research: Roles of microRNAs in tumor metastatization. (Borsa Post dottorato 01/12/21-30/11/22, 01/12/20-30/11/21, months: 16; Assegno di Ricerca 01/10/18-30/11/20, months: 26; 01/10/17-30/09/18, months 12; 01/12/2016-30/09/2017 months:10; 01/12/15-30/11/16, months: 12).

- 2014-2015 Post-doc Fellow (Fondazione CRT Fellowship), Dept. Molecular Biotechnology and Health Sciences, (Prof. D. Taverna's lab), MBC, University of Torino, Italy. Research: Roles of microRNAs in tumor progression. (Assegno di Ricerca 01/12/14-30/11/15, months 12).
- 2012-2014 Research supervisor of unit FIRB 2008 "FUTURO IN RICERCA" RBFR08F2FS\_002 for young investigators "Epigenetic signatures and expression profiles of coding and non-coding RNAs in mammary stem cells and breast cancer", Dept. Molecular Biotechnology and Health Sciences, MBC, University of Torino, Italy.
- Visiting fellow, Istituto per l'Endocrinologia e l'Oncologia Sperimentale "G. Salvatore", Consiglio Nazionale delle Ricerche (IEOS-CNR), (Dr. V. de Franciscis's lab), Naples, Italy, (November 2013). Research: Generation of Axl-miR based sequence chimeric aptamers for targeted cancer therapy.
- 2011 EMBO Short-term Fellow, Beth Israel Deaconess Medical Center, (Prof. PP Pandolfi's lab), Harvard Medical School, Boston, USA. Research: Generation of tissue specific miR-214 expressing mouse models.
- 2008-2011 Post-doc Fellow (Regione Piemonte Fellowship), Dept. Oncological Sciences (Prof. D. Taverna's lab), MBC, University of Torino, Italy. Research: Roles of microRNAs in tumorigenesis.
- 2004-2008 Post-doc Fellow (Regione Piemonte Fellowship), Dept. Oncological Sciences (Dr. D. Taverna's lab), Institute for Cancer Research and Treatment (IRCC), Candiolo (To), University of Torino, Italy. Research: Role of the AP-2 transcription factors in adhesion, migration and differentiation of epithelial and cells.

## EDUCATION AND TRAINING

---

- January 2005 PhD thesis dissertation, PhD course in Neuroscience, University of Torino, Italy.
- November 2001 Governmental exam for Biologists, University of Torino, Italy.
- July 2000 "Laurea" (master equivalent) in B. Sciences, from the University of Torino, Italy, score: 110/110 cum laude.
- July 1995 High School Degree, Liceo Scientifico "Marie Curie", Grugliasco (TO), Italy, score: 58/60.

## PERSONAL SKILLS

---

Mother tongue(s) Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
<b>CAE</b>					
French	B1	B1	B1	B1	B1

**Communication skills** Speaking in public, to groups, or via electronic media.

**Organisational / managerial skills** Enjoy working as a team member as well as independently.

**Job-related skills** Excellent personal motivation with a proven ability to build and work collaboratively in a strong team concept environment.

**Technical skills** Gene cloning, retroviral and lentiviral-mediated stable gene transduction, lentiviral-mediated stable gene knock-down by shRNA, transient transfection assays, dual-luciferase reporter assays, Western Blotting, nuclear and cytoplasmic cell fractionation, RNA extraction, DNA extraction, Northern Blotting, Southern Blotting, PCR, RT-PCR, real-time PCR, chromatin immunoprecipitation assays, cell proliferation assays, in vitro cell migration and invasion assays, ELISA assays, immunohistochemistry and immunofluorescence, gene expression microarray techniques and analysis, in vivo tumorigenesis assays by orthotopic and subcutaneous injections and in vivo metastasis assays (tail vein injections) in immunodeficient and immunocompetent mice, generation of genetically modified mouse models.

**Digital competence**

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Independent	Independent	Independent	Independent	Independent

good command of office suite (word processor, spread sheet, presentation software).  
good command of photo editing software.

**Other skills** Proven leadership and organizational abilities.  
Quality Management Systems (QMS) Auditor/Lead KHC, Checkfruit, Italy, May 2015

**Driving licence** B

## ADDITIONAL INFORMATION

---

### Scientific Impact

Total number of papers	Total Impact factor	Citations Scopus	Numbers of papers as First or Last author	Active Impact factor
<b>44</b>	<b>322</b>	<b>1693</b>	<b>15</b>	<b>102.631</b>

### H-index Scopus

**21**

### Grants

FONDAZIONE CRT Bando erogazioni ordinarie 2020: Visco3DCell - Development of a noninvasive methodology for the study of viscoelastic properties in 3D cell cultures CUPE19C20001260007, Responsible of Research Unit for the University of Torino, Italy, Dept. Molecular Biotechnology and Health Sciences (DBMSS).

FIRB 2008 "FUTURO IN RICERCA" RBFR08F2FS\_002 for young investigators. Research: Epigenetic signatures and expression profiles of coding and non-coding RNAs in mammary stem cells and breast cancer, Ministry for Education, University and Research MIUR, EUR 202.000, 3 years project, December 2011-December 2014.

University of Torino, Progetto Giovani Ricercatori 2001, Lit. 4 500 000.

### Fellowships

University of Torino/Regione Piemonte Fellowship September 2004-February 2008 Research: "Role of the AP-2 transcription factors in adhesion, migration and differentiation of epithelial and cells".

University of Torino/Regione Piemonte March 2008-May 2011 Research: "Roles of microRNAs in tumorigenesis".

EMBO Short-Term Fellowship May 2011-August 2011 Research: "Generation of tissue specific miR-214 expressing mouse models", Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, USA (Prof. P.P. Pandolfi's Lab).

### Recognitions

Abilitazione Scientifica Nazionale Professore II Fascia:

Biologia Molecolare 05/E2 10/04/2017-10/04/2023

Biologia Applicata 05/F1 04/04/2017-04/04/2023

Member of the "Società Italiana di Biofisica e Biologia Molecolare" (SIBBM).

Member of the “Società Italiana di Cancerologia” (SIC).

Member of the “Associazione di Biologia Cellulare e del Differenziamento” (ABCD).

European Association for Cancer Research Ambassador (EACR).

Editorial board member for BMC Cancer.

Guest Editor for Cancers special issue: “miRNAs new insight in Tumor Biology”:

[https://www.mdpi.com/journal/cancers/special\\_issues/MNIITB](https://www.mdpi.com/journal/cancers/special_issues/MNIITB)

Reviewer for several scientific journals (Molecular Therapy, Molecular Therapy Nucleic Acids, Clinical Cancer Research, Gene, Cellular Physiology and Biochemistry, International Journal of Biological Markers, BMC Cancer, Pathology-Research and Practice, Biomedicine and Pharmacotherapy, Frontiers Journals, Cancer Biotherapy & Radiopharmaceuticals, Epigenomics, Scientific Reports, Journal of Translational Medicine).

#### Awards and Honours

Prize “Premio Francesca Martini” NAnA Onlus for best poster in oncology research” SIBBM Meeting, Roma, Italy, June, 22, 2022.

Innovation Property Awards 2021 (IPA2021), Ministry of Economic Development, Best Italian Patent in Life Science and Healthcare, Dubai, United Arab Emirates, February 28<sup>th</sup>, 2022.

Prize for one of the best posters presented, SIBBM Meeting: Frontiers in Metabolic Research, Virtual, Italy, June 7-10, 2021.

Prize for the best presented paper: International Conference on Bioinformatics Models, Methods and Algorithms BIOINFORMATICS/BIOSTEC, 2014, ESEO, Angers, Loire Valley, France March 3-6, 2014.

Prize for the 3rd best poster presented, Metafight Workshop: Unravelling Cancer Cell Invasion and Metastasis, Torino, Italy, December 2-3, 2010.

Prize “Chiara d’ Onofrio Giovani Ricercatori 2009” for the best oral presentation and CV, at the SIBBM Society, Napoli, Italy, 6 June 2009.

#### Teaching experience

Instructor for the “**Molecular Biology II**” course, Master Program in biology, Nutrition and Environment curriculum, (2021-2022), Dept. Scienze e Innovazione tecnologica, University of Eastern Piedmont, Vercelli, Italy, CFU=6.

Instructor for the “Innovative experimental models in developmental biology and pathology” module, part of the “**Biology of regeneration and development**” course (Prof. Merlo, 2017-2018), Master Program in Molecular Biotechnology, University of Torino, Italy, CFU=2.

Supervisor of experimental work for thesis preparation of 14 master students and 5 PhD students (2005-2017), lab. Prof.ssa Taverna, University of Torino, Torino, Italy.

“Cultore della materia” for the **Molecular Biology** course, Master Program in Dentistry and Orthodontics (2015-2021), Master Program in Molecular Biotechnology (2015-2022), Master Program in Strategic Sciences (2022), University of Torino, Torino, Italy.

Teaching assistant for the following courses:

**Molecular Biology** for Pathologists (2018-2022, Prof. Daniela Taverna);

**Molecular biology** for undergraduate students (2nd year): work lab and problem solving;

**Molecular biology II** for undergraduate students (4th year): work lab and problem solving (Prof. De Bortoli, 2001-2002), Bachelor and Master Program in Biological Sciences, University of Torino, Italy.

#### Media

Webinar for the Project BiotechXFuture, "L'RNA: un alleato per nuove terapie", on line 14 July 2021.

Interview “Nuove molecole per la cura del cancro - POC! La tecnologia è matura #2”  
[https://www.youtube.com/watch?v=8qsM11JHD0k&list=PLn5VUyqJL9joJA7G1kh2mm\\_FgogdwPZjC&index=2](https://www.youtube.com/watch?v=8qsM11JHD0k&list=PLn5VUyqJL9joJA7G1kh2mm_FgogdwPZjC&index=2)

Short interview “L'RNA un alleato per nuove terapie” for <http://www.7web.tv/scienza>, <https://youtu.be/oDTXkZoSICQ>

Interview: “Dalla ricerca alla clinica. Come si arriva ad un nuovo farmaco” for Association “Oltre il nastro rosa” : <https://www.facebook.com/oltreilnastrorosa/>, <https://m.youtube.com/watch?v=j9ocOCwMiAc&feature=youtu.be>

#### Public Engagement

Co-organizer of the Photo contest “La Scienza attraverso il mio obiettivo” included in the “Researchers’ Night 2020” program 2020 and 2021 editions.

Supervisor of scientific activities of the Molecular Biotechnology Center, University of Torino, Italy for the project “Bambine e Bambini un giorno all’ Università” organized by the University of Torino, Italy, (February 2020, 2019, 2018, 2017, 2016, 2015).

Exhibition stand supervisor for the Dept. Molecular Biotechnology and Health Sciences, University of Torino, Italy, at the “Researchers’ Night” 2019, 2017, 2016, 2015 editions.

Supervisor of scientific activities for children (6-13 year) at the University of Torino summer camps organized by Cooperativa Lancillotto, Torino, Italy (Summer 2019).

Supervisor of scientific activities for children (6-13 year) at the summer camps organized by SSD LaPolismile, Torino, Italy (Summer 2018, and 2017).

Supervisor of scientific activities for children (6-13 year) at the summer camps organized by ASD LaPolismile, Torino, Italy, (Summer 2016 and 2015).

#### Patents

“Chimeric complex (axl-148b) and its therapeutic uses” n. PCT/IB2020/058098

“Chimeric complex (axl-miR-214sponge) and its therapeutic uses” n. IT102021000022610

#### Peer-reviewed publications

Houshmand M, Vitale\* N, **Orso\* F**, Cignetti A, Molineris I, Gaidano V, Sainas S, Giorgis M, Boschi D, Fava C, Gai M, Geuna M, Sora F, Iuro A, Abruzzese E, Breccia M, Mulas O, Caocci G, Castagnetti F, Taverna D, Oliviero S, Pane F, Lolli ML, Circosta P, Saglio G Dihydroorotate dehydrogenase inhibition reveals metabolic vulnerability in chronic myeloid leukemia, in stampa per **Cell Death and Disease**, \*these authors contributed equally. **IF: 8.469**

Quirico L, **Orso F**, Cucinelli S, Paradzik M, Natalini D, Centonze G, Dalmaso A, La Vecchia S, Coco M, Audrito V, Riganti C, Defilippi P, Taverna D. Altered miRNAs direct metabolic reprogramming and affect cell adhesion/migration during progression of solid tumors, in press in **Cellular and Molecular Life Sciences** (see letter of acceptance in section: “Altri titoli”). **IF: 9.261**.

Virga F, Cappellesso F, Stijlemans B, Henze AT, Trotta R, Van Audenaerde J, Mirchandani AS, Sanchez-Garcia MA, Vandewalle J, **Orso F**, Riera-Domingo C, Griffa A, Ivan C, Smits E, Laoui D, Martelli F, Langouche L, Van den Berghe G, Feron O, Ghesquière B, Prenen H, Libert C, Walmsley SR, Corbet C, Van Ginderachter JA, Ivan M, Taverna D, Mazzone M. Macrophage miR-210 induction and metabolic reprogramming in response to pathogen interaction boost life-threatening inflammation. **Sci Adv**. 2021 May 7;7(19): eabf0466. doi: 10.1126/sciadv.abf0466. Print 2021 May. PMID: 33962944. **IF:14.136**

Coppo\* R, **Orso\* F**, Virga F, Dalmaso A, Baruffaldi D, Nie L, Clapero F, Dettori D, Quirico L, Grassi E, Defilippi P, Provero P, Valdembri D, Serini G, Sadeghi MM, Mazzone M, Taverna D. ESDN inhibits melanoma progression by blocking E-selectin expression in endothelial cells via STAT3. **Cancer Lett**. 2021 Jul 10;510:13-23. doi: 10.1016/j.canlet.2021.04.005. Epub 2021 Apr 13. PMID: 33862151. **IF: 8.679 \*these authors contributed equally**.

Virga F, Quirico L, Cucinelli S, Mazzone M, Taverna D, **Orso F**. MicroRNA-Mediated Metabolic Shaping of the Tumor Microenvironment. **Cancers (Basel)**. 2021 Jan 3;13(1):127. doi: 10.3390/cancers13010127. PMID: 33401522. **IF: 6.639**

Quirico L, **Orso F**, Esposito CL, Bertone S, Coppo R, Conti L, Catuogno S, Cavallo F, de Franciscis V, Taverna D. Axl-148b chimeric aptamers inhibit breast cancer and melanoma progression. **Int J Biol Sci.** 2020 Feb 10;16(7):1238-1251. doi: 10.7150/ijbs.39768. eCollection 2020. PubMed PMID: 32174798; PubMed Central PMCID: PMC7053324. **IF: 6.580.**

**Orso\* F**, Quirico\* L, Dettori D, Coppo R, Virga F, Ferreira LC, Paoletti C, Baruffaldi D, Penna E, Taverna D. Role of miRNAs in tumor and endothelial cell interactions during tumor progression. **Semin Cancer Biol.** 2020 Feb; 60:214-224. doi: 10.1016/j.semcancer.2019.07.024. Epub 2019 Aug 3. Review. PubMed PMID: 31386907. **\*these authors contributed equally. IF:15.707**

Quirico L, **Orso F**. The power of microRNAs as diagnostic and prognostic biomarkers in liquid biopsies *Cancer Drug Resist* 2020;3: [Online First]. DOI: 10.20517/cdr.2019.103.

Ferreira LC, **Orso F**, Dettori D, Lacerda JZ, Borin TF, Taverna D, Zuccari DAPC. The role of melatonin on miRNAs modulation in triple-negative breast cancer cells. **PLoS One.** 2020 Feb 3;15(2):e0228062. doi: 10.1371/journal.pone.0228062. eCollection 2020. PubMed PMID: 32012171; PubMed Central PMCID: PMC6996834.**IF: 3.240**

Reale<sup>#</sup> E, Taverna<sup>\*</sup> D, Cantini L, Martignetti L, Osella M, De Pittà C, Virga F, **Orso<sup>S#</sup> F**, Caselle<sup>S</sup> M. Investigating the epi-miRNome: identification of epi-miRNAs using transfection experiments. **Epigenomics.** 2019 Nov;11(14):1581-1599. doi: 10.2217/epi-2019-0050. Epub 2019 Nov 6. PubMed PMID: 31693439. **\*these authors contributed equally, <sup>S</sup>co-last authors, <sup>#</sup>corresponding authors. IF:4.778**

Vitiello M, Evangelista M, Di Lascio N, Kusmic C, Sarti S, Rodzik K, **Orso F**, Massa A, Chandra D, Pucci A, Taverna D, Salvetti, Francesco Faita, Claudia Gravekamp, Laura Polisenio. Antitumoral effects of attenuated *Listeria monocytogenes* in a genetically engineered mouse model of melanoma **Oncogene.** **IF: 9.867**

Laudadio I, **Orso F**, Azzalin G, Calabrò C, Berardinelli F, Coluzzi E, Gioiosa S, Taverna D, Sgura A, Carissimi C, Fulci V. AGO2 promotes telomerase activity and interaction between the telomerase components TERT and TERC. *EMBO Rep.* 2019 Feb;20(2). pii: e45969. doi: 10.15252/embr.201845969. Epub 2018 Dec 27. PubMed PMID: 30591524; PubMed Central PMCID: PMC6362350. **EMBO Reports. IF: 8.807**

Dettori\* D, **Orso\* # F**, Penna\* E, Baruffaldi D, Brundu S, Maione F, Zisoulis DG, Turco E, Giraudo E, Taverna D<sup>#</sup>. Therapeutic silencing of miR-214 inhibits tumor progression in multiple mouse models, **Mol Ther.** 2018 Jun 18. pii: S1525-0016(18)30248-X. doi:10.1016/j.ymthe.2018.05.020. [Epub ahead of print] PubMed PMID: 29929788 **\*these authors contributed equally, # corresponding authors. IF: 11.454**



Xue G, Kohler R, Tang F, Hynx D, Wang Y, **Orso F**, Prêtre V, Ritschard R, Hirschmann P, Cron P, Roloff T, Dummer R, Mandalà M, Bichet S, Genoud C, Meyer AG, Muraro MG, Spagnoli GC, Taverna D, Rüegg C, Merghoub T, Massi D, Tang H, Levesque MP, Dirnhofer S, Zippelius A, Hemmings BA, Wicki A. mTORC1/autophagy-regulated MerTK in mutant BRAFV600 melanoma with acquired resistance to BRAF inhibition. **Oncotarget**. 2017 May 25. doi: 10.18632/oncotarget.18213. [Epub ahead of print] PubMed PMID: 28599271. **IF: 5.008**.

Sciortino M, Camacho-Leal MDP, **Orso F**, Grassi E, Costamagna A, Provero P, Tam W, Turco E, Defilippi P, Taverna D, Cabodi S. Dysregulation of Blimp1 transcriptional repressor unleashes p130Cas/ErbB2 breast cancer invasion. **Sci Rep**. 2017 Apr 25;7(1):1145. doi: 10.1038/s41598-017-01332-z. PubMed PMID: 28442738; PubMed Central PMCID: PMC5430666. **IF: 4.379**.

Audrito V, Serra S, Stingi A, **Orso F**, Gaudino F, Bologna C, Neri F, Garaffo G, Nassini R, Baroni G, Rulli E, Massi D, Oliviero S, Piva R, Taverna D, Mandalà M, Deaglio S. PD-L1 up-regulation in melanoma increases disease aggressiveness and is mediated through miR-17-5p. **Oncotarget**. 2017 Feb 9. doi: 10.18632/oncotarget.15213. [Epub ahead of print] PubMed PMID: 28199980. **IF: 5.008**.

Fagoonee S, Picco G, **Orso F**, Arrigoni A, Longo DL, Forni M, Scarfò I, CassentiA, Piva R, Cassoni P, Silengo L, Tolosano E, Aime S, Taverna D, Pandolfi PP, Brancaccio M, Medico E, Altruda F. The RNA-binding protein ESRP1 promotes human colorectal cancer progression. **Oncotarget**. 2017 Feb 7;8(6):10007-10024. doi: 10.18632/oncotarget.14318. PubMed PMID: 28052020. **IF: 5.008**.

Comunanza V, Corà D, **Orso F**, Consonni FM, Middonti E, Di Nicolantonio F, Buzdin A, Sica A, Medico E, Sangiolo D, Taverna D, Bussolino F. VEGF blockade enhances the antitumor effect of BRAFV600E inhibition. **EMBO Mol Med**. 2017 Feb;9(2):219-237. doi: 10.15252/emmm.201505774. PubMed PMID: 27974353; PubMed Central PMCID: PMC5286370. **IF: 12.137**.

**Orso F\***, Quirico L\*, Virga F, Penna E, Dettori D, Cimino D, Coppo R, Grassi E, Elia AR, Brusa D, Deaglio S, Brizzi MF, Stadler MB, Provero P, Caselle M, Taverna D. miR-214 and miR-148b targeting inhibits dissemination of melanoma and breast cancer. **Cancer Res**. 2016 Jun 21. pii: canres.1322.2015. [Epub ahead of print] PubMed PMID: 27328731. **\*these authors contributed equally. IF: 12.701**

Raimo M, **Orso F**, Grassi E, Cimino D, Penna E, De Pittà C, Stadler MB, Primo L, Calautti E, Quaglino P, Provero P, Taverna D. miR-146a Exerts Differential Effects on Melanoma Growth and Metastatization. **Mol Cancer Res**. 2016 Jun;14(6):548-62. doi: 10.1158/1541-7786.MCR-15-0425-T. PubMed PMID: 27311960. **IF: 5.852**.

Politano G, **Orso F**, Raimo M, Benso A, Savino A, Taverna D, Di Carlo S. CyTRANSFINDER: a Cytoscape 3.3 plugin for three-component (TF, gene, miRNA) signal transduction pathway construction. **BMC Bioinformatics**. 2016 Apr 8;17:157. doi: 10.1186/s12859-016-0964-2.

PubMed PMID: 27059647; PubMed Central PMCID: PMC4826505. **IF: 3.169.**

Penna E, **Orso F**, Taverna D. miR-214 as a key hub that controls cancer networks: small player, multiple functions. **J Invest Dermatol.** 2015 Apr;135(4):960-9. doi: 10.1038/jid.2014.479. Epub 2014 Dec 11. Review. PubMed PMID: 25501033. **IF: 8.551.**

Cuiffo BG, Campagne A, Bell GW, Lembo A, **Orso F**, Lien EC, Bhasin MK, Raimo M, Hanson SE, Marusyk A, El-Ashry D, Hematti P, Polyak K, Mechta-Grigoriou F, Mariani O, Volinia S, Vincent-Salomon A, Taverna D, Karnoub AE. MSC-regulated microRNAs converge on the transcription factor FOXP2 and promote breast cancer metastasis. **Cell Stem Cell.** 2014 Dec 4;15(6):762-74. doi:10.1016/j.stem.2014.10.001. Epub 2014 Oct 16. PubMed PMID: 25515522. **IF: 24.633**

Pinatel EM, **Orso F**, Penna E, Cimino D, Elia AR, Circosta P, Dentelli P, Brizzi MF, Provero P, Taverna D. miR-223 Is a Coordinator of Breast Cancer Progression as Revealed by Bioinformatics Predictions. **PLoS One.** 2014 Jan 6;9(1):e84859. doi: 10.1371/journal.pone.0084859. PubMed PMID: 24400121; PubMed Central PMCID: PMC3882278. **IF: 3.240.**

**Orso F**, Balzac F, Marino M, Lembo A, Retta SF, Taverna D. miR-21 coordinates tumor growth and modulates KRIT1 levels. **Biochem Biophys Res Commun.** 2013 Aug 16;438(1):90-6. doi: 10.1016/j.bbrc.2013.07.031. Epub 2013 Jul 18. PubMed PMID: 23872064; PubMed Central PMCID: PMC3750217. **IF: 3.575**

Pincini A, Tornillo G, **Orso F**, Sciortino M, Bisaro B, Leal Mdel P, Lembo A, Brizzi MF, Turco E, De Pittà C, Provero P, Medico E, Defilippi P, Taverna D, Cabodi S. Identification of p130Cas/ErbB2-dependent invasive signatures in transformed mammary epithelial cells. **Cell Cycle.** 2013 Aug 1;12(15):2409-22. doi: 10.4161/cc.25415. Epub 2013 Jun 28. PubMed PMID: 23839042; PubMed Central PMCID: PMC3841320. **IF: 4.534.**

Penna E, **Orso F**, Cimino D, Vercellino I, Grassi E, Quaglino E, Turco E, Taverna D. miR-214 coordinates melanoma progression by upregulating ALCAM through TFAP2 and miR-148b downmodulation. **Cancer Res.** 2013 Jul 1;73(13):4098-111. doi:10.1158/0008-5472.CAN-12-3686. Epub 2013 May 10. PubMed PMID: 23667173. **IF: 12.701.**

Arigoni M, Barutello G, Riccardo F, Ercole E, Cantarella D, **Orso F**, Conti L, Lanzardo S, Taverna D, Merighi I, Calogero RA, Cavallo F, Quaglino E. miR-135b coordinates progression of ErbB2-driven mammary carcinomas through suppression of MID1 and MTCH2. **Am J Pathol.** 2013 Jun;182(6):2058-70. doi: 10.1016/j.ajpath.2013.02.046. Epub 2013 Apr 23. PubMed PMID: 23623609. **IF:4.307.**

Cimino D, De Pittà C, **Orso F**, Zampini M, Casara S, Penna E, Quaglino E, Forni M, Damasco C, Pinatel E, Ponzzone R, Romualdi C, Brisken C, De Bortoli M, Biglia N, Provero P, Lanfranchi G, Taverna D.

miR148b is a major coordinator of breast cancer progression in a relapse-associated microRNA signature by targeting ITGA5, ROCK1, PIK3CA, NRAS, and CSF1. **FASEB J.** 2013 Mar;27(3):1223-35. doi: 10.1096/fj.12-214692. Epub 2012 Dec 11. PubMed PMID: 23233531. **IF: 5.191.**

Bisaro B, Montani M, Konstantinidou G, Marchini C, Pietrella L, Iezzi M, Galiè M, **Orso F**, Camporeale A, Colombo SM, Di Stefano P, Tornillo G, Camacho-Leal MP, Turco E, Taverna D, Cabodi S, Amici A, Defilippi P. p130Cas/Cyclooxygenase-2 axis in the control of mesenchymal plasticity of breast cancer cells. **Breast Cancer Res.** 2012 Oct 26;14(5):R137. [Epub ahead of print] PubMed PMID: 23098208. **IF: 6.466.**

Osella-Abate S, Novelli M, Quaglino P, **Orso F**, Ubezio B, Tomasini C, Berardengo E, Bernengo MG, Taverna D. Expression of AP-2 $\alpha$ , AP-2 $\gamma$  and ESDN in primary melanomas: correlation with histopathological features and potential prognostic value. **J Dermatol Sci.** 2012 Dec;68(3):202-4. doi:10.1016/j.jdermsci.2012.09.008. Epub 2012 Sep 18. PubMed PMID: 23036739. **IF: 4.563.**

Gagliardi PA, di Blasio L, **Orso F**, Seano G, Sessa R, Taverna D, Bussolino F, Primo L. 3-phosphoinositide-dependent kinase 1 controls breast tumor growth in a kinase-dependent but Akt-independent manner. **Neoplasia.** 2012 Aug;14(8):719-31. PubMed PMID: 22952425; PubMed Central PMCID: PMC3431179. **IF: 5.715.**

Tombolan L, **Orso F**, Guzzardo V, Casara S, Zin A, Romualdi C, De Pittà C, Bisogno G, Alaggio R, Taverna D, Rosolen A, Lanfranchi G. High IGFBP2 expression correlates with tumor severity in *PAX/FKHR* negative pediatric rhabdomyosarcoma. **Am J Pathol.** 2011 Nov; 179(5):2611-24. Epub 2011 Sep 13. **IF: 4.307.**

Penna E\*, **Orso F\***, Cimino D, Tenaglia E, Lembo A, Quaglino E, Polisenio L, Haimovic A, Osella-Abate S, De Pittà C, Pinatel E, Stadler MB, Provero P, Bernengo MG, Osman I, Taverna D. microRNA-214 contributes to melanoma tumour progression through suppression of TFAP2C. **EMBO J.** 2011 May 18;30(10):1990-2007. Epub 2011 Apr 5. **\*these authors contributed equally. Comment in [Searching for the 'melano-miRs': miR-214 drives melanoma metastasis.](#) [EMBO J. 2011]. **IF: 11.598.****

**Orso F**, Corà D, Ubezio B, De Bortoli M, Provero P, M. Caselle and Taverna D. Identification of functional TFAP2A and SP1 binding sites in new TFAP2A-modulated genes. **BMC Genomics**, 2010, 11: 355 doi: 10.1186/1471-2164-11-355. PubMed PMID: 20525283; PubMed Central PMCID: PMC2890567. **IF: 3.969.**

Dentelli P, Rosso A, **Orso F**, Olgasi C, Taverna D, Brizzi MF. microRNA-222 controls neovascularization by regulating signal transducer and activator of transcription 5A expression. **Arterioscler Thromb Vasc Biol.** 2010 Aug;30(8):1562-8. doi: 10.1161/ATVBAHA.110.206201. Epub 2010 May 20. PubMed PMID: 20489169. Comment in [Microregulation of plaque neovascularization.](#) [Arterioscler Thromb Vasc Biol. 2010] **IF: 8.311.**

Thewes V\*, **Orso F\***, Jäger R, Eckert D, Kirfel G, Garbe G, Taverna D and Schorle H. Interference with Activator Protein-2 transcription factors leads to induction of apoptosis and an increase in chemo- and radiation- sensitivity in breast cancer cells. **BMC Cancer**, 2010, 10:192 **\*these authors contributed equally. IF: 4.430**

Circosta P, Granziero L, Follenzi A, Vigna E, Stella S, Vallario A, Elia AR, Gammaitoni L, Vitaggio K, **Orso F**, Geuna M, Sangiolo D, Todorovic M, Giachino C, Cignetti A. T cell receptor (TCR) gene transfer with lentiviral vectors allows efficient redirection of tumor specificity in naive and memory T cells without prior stimulation of endogenous TCR. **Hum Gene Ther**. 2009 Dec;20(12):1576-88. doi:10.1089/hum.2009.117. PubMed PMID: 19678763. **IF: 5.695**.

**Orso F**, Jäger R, Calogero RA, Schorle H, Sismondi P, De Bortoli M, Taverna D. AP-2alpha regulates migration of GN-11 neurons via a specific genetic programme involving the Axl receptor tyrosine kinase. **BMC Biol**. 2009 May 22;7:25. doi: 10.1186/1741-7007-7-25. PubMed PMID: 19463168; PubMed Central PMCID: PMC2700071. **IF: 7.431**.

Dentelli P, Trombetta A, Togliatto G, Zeoli A, Rosso A, Uberti B, **Orso F**, Taverna D, Pegoraro L, Brizzi MF. Formation of STAT5/PPARgamma transcriptional complex modulates angiogenic cell bioavailability in diabetes. **Arterioscler Thromb Vasc Biol**. 2009 Jan;29(1):114-20. doi: 10.1161/ATVBAHA.108.172247. Epub 2008 Oct 16. PubMed PMID: 18927468. Comment in [Vascular remodeling in diabetes: don't leave without your STAT5](#). [Arterioscler Thromb Vasc Biol. 2009]. **IF: 8.311**.

**Orso F**, Penna E, Cimino D, Astanina E, Maione F, Valdembrì D, Giraudò E, Serini G, Sismondi P, De Bortoli M, Taverna D. AP-2alpha and AP-2gamma regulate tumor progression via specific genetic programs. **FASEB J**. 2008 Aug;22(8):2702-14. Epub 2008 Apr 28. **IF: 5.191**.

**Orso F**, Fassetta M, Penna E, Solero A, De Filippo K, Sismondi P, De Bortoli M, Taverna D. The AP-2alpha transcription factor regulates tumor cell migration and apoptosis. **Adv Exp Med Biol**. 2007;604:87-95. PubMed PMID: 17695722. **IF: 2.622**.

**Orso F**, Cottone E, Hasleton MD, Ibbitt JC, Sismondi P, Hurst HC, De Bortoli M. Activator protein-2gamma (AP-2gamma) expression is specifically induced by oestrogens through binding of the oestrogen receptor to a canonical element within the 5'-untranslated region. **Biochem J**. 2004 Jan 15;377(Pt 2):429-38. PubMed PMID: 14565844; PubMed Central PMCID: PMC1223884. **IF: 3.857**.

Cottone E, **Orso F**, Biglia N, Sismondi P, De Bortoli M. Role of coactivators and corepressors in steroid and nuclear receptor signaling: potential markers of tumor growth and drug sensitivity. **Int J Biol Markers**. 2001 Jul-Sep;16(3):151-66. Review. PubMed PMID: 11605727. **IF: 2.659**.

#### Other publications

Cucinelli S, Quirico L , **Orso F**, Taverna D. Image for the Editorial of Advances in Cancer Biology – Metastasis by I. Skvortsova. Advances in Cancer Biology – Metastasis, Volume 1, July 2021, 100002.

Politano G, Benso, A, Di Carlo S, **Orso F**, Savino A, Taverna D A computational pipeline to identify new potential regulatory motifs in melanoma progression. Volume 511 of the series Communications in Computer and Information Science pp 181-194 Biomedical Engineering Systems and Technologies.

Politano G, Benso A, Di Carlo S, **Orso F**, Savino A, Taverna D A computational study to identify TP53 and SREBF2 as regulation mediators of miR-214 in melanoma progression. BIOINFORMATICS 2014 - 5th Int. Conf. on Bioinformatics Models, Methods and Algorithms, Proceedings; Part of 7th Int. Joint Conference on Biomedical Engineering Systems and Technologies, BIOSTEC 2014, pp 49-56 Conference paper.

Raimo M, **Orso, F**, Cimino D, De Pitta, Pinatel, E, Penna, E, Lembo, A, Primo L, Medico E, Taverna, D. MicroRNA-146a controls melanoma via a novel pathway. Treatment Strategies-ECC-2013, Congress Review, Vol: 4, Issue 1 Pages: 29. Published: 2014.

Raimo M, **Orso, F**, Cimino D, De Pitta, Pinatel, E, Penna, E, Lembo, A, Primo L, Medico E, Taverna, D. MicroRNA-146a controls melanoma via a novel pathway. European Journal of Cancer, Vol: 49 Pages: S120-S120 Supplement: 2 Meeting Abstract: 580 Published: SEP 2013, ISSN: 0959-8049.

Sanlorenzo M, Osella-Abate S, Novelli M, Quaglino, P, **Orso, F**, Ubezio B, Marengo F, Fierro M, Bernengo M, Taverna, D. miR214 expression and interconnected Endothelial and Smooth muscle cell Derived Neuropilin-like molecule ESDN and AP-2 family protein expression in primary melanoma. Journal of Investigative Dermatology, Vol: 132, Pages: S38-S38, Supplement: 2, Meeting Abstract: 212, published: SEP 2012 ISSN: 0022-202X.

Cimino, D, Pitta CD, **Orso F**, Casara S, Zampini M, Romualdi C, Damasco C, Pinatel E, Ponzzone R, Brisken C, De Bortoli M, Biglia N, Provero P, Lanfranchi G, Taverna D. miR-148b is a major coordinator in a relapse-associated miR signature in breast tumors. FEBS Journal Vol: 278, Pages: 199-200, Supplement: 1, Special Issue, published: JUN 2011, ISSN: 1742-464X.

Gagliardi PA, di Blasio L, Orso F, Seano G, Sessa R, Taverna D, Bussolino F, Primo L. 3-Phosphoinositide-dependent kinase-1 controls breast tumor growth in AKT-independent manner. FEBS Journal, Vol: 278, Pages: 207-208 Supplement: 1, Special Issue published: JUN 2011, ISSN: 1742-464X.

Circosta P, Elia AR, Todorovic M, **Orso F**, Tarella C, Cignetti A. An allo-restricted peptide-specific CTL clone directed against the universal tumour antigen surviving. Bone Marrow Transplantation, Vol: 45, Pages: S302-S302 Supplement: 2, Published: MAR 2010, ISSN: 0268-3369.

**Orso F**, Taverna D . TFAP2A (transcription factor AP-2 alpha (activating enhancer binding protein 2 alpha). Atlas Genet Cytogenet Oncol Haematol. September 2009.

Patrizi A, **Orso F**, Sica M, Taverna D, De Bortoli M, Panzica GC. Co-localization of AP2alpha transcription factor and TH-immunoreactive neurons in mouse locus coeruleus. Hormones and Behavior, Vol: 46, Issue: 1, Pages: 97-98, Published: JUN 2004, ISSN: 0018-506X.

Submitted/in preparation **Orso F**, Virga F, Dettori D, Dalmaso A, Paradzik M, Savino A, Cucinelli S, Coco M, Pomatto MAC, Camussi G, Mareschi K, Fagioli F, Salmena L, Poli V, Mazzone M, Pandolfi PP, Taverna D. Stroma-derived miR-214 coordinates tumor dissemination, under revision for **Journal of Experimental & Clinical Cancer Research**

Quirico L, **Orso F**, Bertone S, Esposito CL, Cirilo P, Stadler M, de Franciscis V, Taverna D Axl-miR-214sponge inhibits breast cancer dissemination, in preparation.

#### Oral presentations/Chair

**Orso F**, Virga F, Dettori D, Baruffaldi D, Massa A, Bolli E, Cavallo F, Forni M, Salmena L, Mazzone M, Pandolfi P, Taverna D. miR-214 in tumor-stroma cell interactions. **Selected for oral presentation, presentation on behalf of Prof. Taverna** SIC Meeting “Precision Medicine from myth to reality”, Napoli, Italy 6-8 November 2019.

**Co-chair** of the “Non coding RNA session” at the XV FISV Congress, Roma, Italy, 18-21 September 2018.

**Orso F**, Quirico L, Dettori D, Virga F, Penna E, Coppo R, Stadler MB, Esposito CL, de Franciscis V, Taverna D. miR-214 and miR-148b coordinate breast cancer and melanoma progression and are putative targets for therapy. **Speaker and Moderator**, European Cancer Summit 2017, Rome, Italy, 4-5 September, 2017.

**Orso F**, Quirico L, Dettori D, Virga F, Penna E, Taverna D. Targeting miR-214 and miR-148b to inhibit tumor metastatization. **Speaker**, CIBER/BBN-UNITO Meeting, Barcelona, Spain, 7-9 November 2016.

**Orso F**, Quirico L, Cimino D, Penna E, Elia AR, Stadler M, Taverna D. microRNA sponges powerful tools to control tumor progression. **Selected for oral presentation**, SIBBM2013, Pavia, Italy, 5-7 June, 2013.

**Orso F**, Corà D, Ubezio B, Provero P, Caselle M, Taverna D Analysis of the regulatory regions of AP-2 $\alpha$ -modulated genes. **Selected for oral presentation and winner of the Premio Chiara d’Onofrio Giovani Ricercatori 2009**.SIBBM Meeting, Napoli, June 4-6, 2009.

**Orso F**, Penna E, Corà D, Caselle M, Sismondi P, De Bortoli M, Taverna D. The AP-2alpha and AP-2gamma transcription factors

regulate tumor formation and progression via a specific genetic program. **Selected for oral presentation**, ABCD Meeting, Certosa di Pontignano, March 28-29, 2008.