




PERSONAL INFORMATION

Elisabetta Rossi

 Università degli Studi di Padova
Dipartimento di Scienze Chirurgiche Oncologiche e Gastroenterologiche
Sezione di Oncologia ed Immunologia
Via Gattamelata, 64 - Padova (Italy)
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WORK EXPERIENCE

01/03/2002–Present

Thecnician

Università degli Studi di Padova
Dipartimento di Scienze Chirurgiche Oncologiche e Gastroenterologiche
Sezione di Oncologia ed Immunologia

Main topics:

Circulating tumor cell (CTC)/ circulating tumor DNA (ctDNA) genetic analysis.

Drug-resistant mutation detection in Non Small Cell Lung Carcinoma (NSCLC) CTCs.

CTC expression profile investigation.

Circulating Melanoma Cell (CMC)/ctDNA analysis, mutational analysis of BRAF, NRAS, KIT genes and evaluation of their role in target therapy response.

Flow cytometry analysis of different cell populations identified on the basis of different parameters, including physical structure, expression of surface and cytoplasmatic antigens.

05/2012-06/2012

Staff Training Erasmus

Faculty of Science and Technology (TNW), Medical Cell Biophysics (MCBP), University of Twente, Twente (the Netherlands)

EDUCATION AND TRAINING

- 11/2001 **Master-level degree in Biological Sciences**
University of Padua., Padua (Italy)
- 11/2003 **Italian Professional License in Biology: passed.**
University of Padua., Padua (Italy)
- 07/2006 **Postgraduate Degree in Clinical Pathology at the Medical School of the University of Padua, 70/70 cum laude**
University of Padua., Padua (Italy)
- 03/2017 **PhD in Integrated biomedical and bioethical sciences**
Department of Medical Oncology, Campus Bio-Medico University of Rome, Rome, Italy

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B1	B1	C1
French	C1	C1	C1	C1	C1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
[Common European Framework of Reference for Languages](#)

Organisational / managerial skills

As PI of the GR2010-2303193 project I have developed the skills to coordinate several clinical sites and solve problems that could not be foreseen at the time of drafting of the project. I was responsible for the preparation of reports and manuscripts.

As deputy of clinical coordinator in CTCTrap, I have promoted technical "brainstorming" aimed at solving specific technical criticalities related to planning entrusted to me with Biotechnicians

and Biologists working in other European universities and Biotech companies.

Work- related skills

Research interests:

- 1) Immunology and Melanoma
- 2) Physiology and pathology of the immune system;
- 3) Pathogenic mechanisms in models of lymphoma-genesis in immunodeficient hosts;
- 4) Molecular Biology of Cancer;
- 5) Predictive value and biological significance of Circulating Tumor Cells (CTC) in solid tumors.

ADDITIONAL INFORMATION

Conferences- Presentations

2014 Aviano QUIDPROQUO 3rd MIDSUMMER FESTIVAL title of oral presentation (as guest speaker): Measuring CTCs using the Veridex CellSearch apparatus

2014 International Symposium on Microgenomics Title of oral presentation: Are apoptotic Circulating Tumour Cells (CTCs) suitable for molecular analysis?

2015 Milano NGS congress title, oral presentation (as guest speaker): Circulating Tumour Cells and deep sequencing

2015 AACR poster: Non Small Cell Lung Cancer and Circulating Tumour Cell: A different expression of EpCam and Cytokeratins

2015 AIOM poster: Non Small Cell Lung Cancer (NSCLC) and Circulating Tumour Cells (CTCs): Could an implemented CTC assay reveal higher risk patients?

2016 Roma Symposium Liquid Biopsy tracking Cancer (award for the best poster):Circulating compartment of solid tumours: complementary use of Circulating Tumour Cells and cell-free DNA

2017 Molecular Diagnostics EUROPECell-Free DNA in Clinical Oncology • Biomarkers for Immunotherapy: Could Circulating Tumor Cells (CTCs) monitoring and characterization, reflect the response to treatment in NSCLC?

Publications

1. **CTCs 2020: Great Expectations or Unreasonable Dreams.** Rossi E, Fabbri F. Cells. 2019 Aug 27;8(9). pii: E989. doi: 10.3390/cells8090989. Review. PMID:31461978
2. **EPAC-lung: pooled analysis of circulating tumour cells in advanced non-small cell lung cancer.** Lindsay CR, Blackhall FH, Carmel A, Fernandez-Gutierrez F, Gazzaniga P, Groen HJM, Hiltermann TJN, Krebs MG, Loges S, López-López R, Muínelo-Romay L, Pantel K, Priest L, Riethdorf S, Rossi E, Terstappen L, Wikman H, Soria JC, Farace F, Renehan A, Dive C, Besse B, Michiels S. Eur J Cancer. 2019 Jun 26;117:60-68. doi:

10.1016/j.ejca.2019.04.019 PMID:31254940

3. Detection and Prognostic Relevance of Circulating and Disseminated Tumour Cell in Dogs with Metastatic Mammary Carcinoma: A Pilot Study. Marconato L, Facchinetti A, Zanardello C, **Rossi E**, Vidotto R, Capello K, Melchiotti E, Laganga P, Zamarchi R, Vascellari M. *Cancers (Basel)*. 2019 Feb 1;11(2). pii: E163. doi: 10.3390/cancers11020163. PMID:30717110
4. Single tube liquid biopsy for advanced non-small cell lung cancer. de Wit S, **Rossi E**, Weber S, Tamminga M, Manicone M, Swennenhuis JF, Groothuis-Oudshoorn CGM, Vidotto R, Facchinetti A, Zeune LL, Schuurin E, Zamarchi R, Hiltermann TJN, Speicher MR, Heitzer E, Terstappen LWMM, Groen HJM. *Int J Cancer*. 2019 Jun 15;144(12):3127-3137. doi: 10.1002/ijc.32056. Epub 2019 Jan 28. PMID:30536653
5. EpCAM^{high} and EpCAM^{low} circulating tumor cells in metastatic prostate and breast cancer patients. de Wit S, Manicone M, **Rossi E**, Lampignano R, Yang L, Zill B, Rengel-Puertas A, Ouhlen M, Crespo M, Berghuis AMS, Andree KC, Vidotto R, Trapp EK, Tzschaschel M, Colomba E, Fowler G, Flohr P, Rescigno P, Fontes MS, Zamarchi R, Fehm T, Neubauer H, Rack B, Alunni-Fabbroni M, Farace F, De Bono J, IJzerman MJ, Terstappen LWMM. *Oncotarget*. 2018 Nov 2;9(86):35705-35716. doi: 10.18632/oncotarget.26298. eCollection 2018 Nov 2. PMID:30479699
6. LKB1 loss is associated with glutathione deficiency under oxidative stress and sensitivity of cancer cells to cytotoxic drugs and γ -irradiation. Zulato E, Ciccarese F, Agnusdei V, Pinazza M, Nardo G, Iorio E, Curtarello M, Silic-Benussi M, **Rossi E**, Venturoli C, Panieri E, Santoro MM, Di Paolo V, Quintieri L, Ciminale V, Indraccolo S. *Biochem Pharmacol*. 2018 Sep 14. pii: S0006-2952(18)30401-5. doi: 10.1016/j.bcp.2018.09.019. PMID:30222967
7. Clonal heterogeneity of melanoma in a paradigmatic case study: future prospects for circulating melanoma cells. Scaini MC, Pigozzo J, Pizzi M, Manicone M, Chiarion-Sileni V, Zambenedetti P, Rugge M, Zanovello P, **Rossi E**, Zamarchi R, Facchinetti A. *Melanoma Res*. 2018 Sep 14. doi: 10.1097/CMR.0000000000000510. [Epub ahead of print] PMID:30222690
8. Towards a real liquid biopsy in metastatic breast and prostate cancer: Diagnostic LeukApheresis increases CTC yields in a European prospective multi-center study (CTCTrap). Andree KC1, Mentink A, Zeune LL, Terstappen LWMM, Stoecklein NH, Neves RP, Driemel C, Lampignano R, Yang L, Neubauer H, Fehm T, Fischer JC, **Rossi E**, Manicone M, Basso U, Marson P, Zamarchi R, Loriot Y, Lapiere V, Faugeron V, Ouhlen M, Farace F, Fowler G, Sousa Fontes M, Ebbs B, Lambros M, Crespo M, Flohr P, de Bono JS. *Int J Cancer*. 2018 Jul 14. doi: 10.1002/ijc.31752. PMID:30006930
9. What information could the main actors of liquid biopsy provide? —a representative case of non-small cell lung cancer (NSCLC). Pezzuto A, Manicone M, Scaini M, Ricci A, Mariotta S, Zamarchi R, **Rossi E**. Vol 3 Vol 9, 2018 *Journal of Thoracic Disease*
10. Liquid biopsy for monitoring anaplastic lymphoma kinase inhibitors in non-small cell lung cancer: two cases compared. Manicone M, Scaini M C, Rodriquez M G, Facchinetti A, Tartarone A, Aieta M, Zamarchi R, **Rossi E**. Vol 9, Supplement 13 (October 2017): *Journal of Thoracic Disease (The Evolving Concept of Liquid Biopsy in Non-Small Cell Lung Cancer Patients)*
11. Grp94 in complexes with IgG is a soluble diagnostic marker of gastrointestinal tumors and displays immune-stimulating activity on peripheral blood immune cells. Tramentozzi E, Ruli E, Angriman I, Bardini R, Campora M, Guzzardo V, Zamarchi R, **Rossi E**, Rugge M, Finotti P. *Oncotarget*. 2016 Sep 20. doi: 10.18632/oncotarget.12141.
12. Monitoring and Characterization of Circulating Tumor Cells (CTCs) in a Patient With EML4-ALK-Positive Non-Small Cell Lung Cancer (NSCLC). Aieta M, Facchinetti A, De Faveri S, Manicone M, Tartarone A, Possidente L, Lerose R, Mambella G, Calderone G, **Zamarchi R, Rossi E**. *Clin Lung Cancer*. 2016 May 18. pii: S1525-7304(16)30107-3. doi: 10.1016/j.clc.2016.05.002
13. Possible applications of circulating tumor cells in patients with non small cell lung cancer. Tartarone A, **Rossi E**, Lerose R, Mambella G, Calderone G, Zamarchi R, Aieta M. *Lung Cancer*. 2016 May 31. pii: S0169-5002(16)30349-X. doi: 10.1016/j.lungcan.2016.05.027. [Epub ahead of print] PMID: 27339469
14. Notes for developing a molecular test for the full characterization of circulating tumor cells. **Rossi E**, Facchinetti A, Zamarchi R. *Chin J Cancer Res*. 2015 Oct;27(5):471-8. doi: 10.3978/j.issn.1000-9604.2015.09.02. Review. PMID: 26543333
15. Non small cell lung cancer and circulating tumour cell: A different expression of EpCam and

- cytokeratins **E. Rossi**, M. Manicone, A. Facchinetti, M. Aieta, S. De Faveri, M. C. Scaini, L. Possidente, L. W.M.M. Terstappen, R. Zamarchi.. *Cancer Res* August 1, 2015 75; 387 doi:10.1158/1538-7445.AM2015-387
16. Non Small Cell Lung Cancer (NSCLC) and Circulating Tumour Cells (CTCs): Could an implemented CTC assay reveal higher risk patients? **E. Rossi**, A. Tartarone, A. Facchinetti, A. Pezzuto, S. De Faveri, G. Mambella, L. Possidente, S. Mariotta, M. Aieta and R. Zamarchi. *Ann Oncol* (2015) 26 (suppl 6): vi73–vi89 doi:10.1093/annonc/mdv343.22
 17. VEGF-targeted therapy stably modulates the glycolytic phenotype of tumor cells. Curtarello M, Zulato E, Nardo G, Valtorta S, Guzzo G, **Rossi E**, Esposito G, Msaki A, Pastò A, Rasola A, Persano L, Ciccarese F, Bertorelle R, Todde S, Plebani M, Schroer H, Walenta S, Mueller-Klieser W, Amadori A, Moresco RM, Indraccolo S. *Cancer Res*. 2015 Jan 1;75(1):120-33. doi: 10.1158/0008-5472.CAN-13-2037. Epub 2014 Nov 7. PMID:25381153
 18. DLL4 regulates NOTCH signaling and growth of T acute lymphoblastic leukemia cells in NOD/SCID mice. Minuzzo S, Agnusdei V, Pusceddu I, Pinazza M, Moserle L, Masiero M, **Rossi E**, Crescenzi M, Hoey T, Ponzoni M, Amadori A, Indraccolo S. *Carcinogenesis*. 2015 Jan;36(1):115-21. doi: 10.1093/carcin/bgu223. Epub 2014 Oct 29. PMID:25355291
 19. Human miRNome profiling in colorectal cancer and liver metastasis development. Perilli L, Pizzini S, Bisognin A, Mandruzzato S, Biasiolo M, Faccioli A, **Rossi E**, Esposito G, Rugge M, Pilati P, Mocellin S, Nitti D, Bortoluzzi S, Zanovello P. *Genom Data*. 2014 Jun 27;2:184-8. doi: 10.1016/j.gdata.2014.06.017. eCollection 2014 Dec. PMID:26484092
 20. Retaining the long-survive capacity of Circulating Tumor Cells (CTCs) followed by xenotransplantation: not only from metastatic cancer of the breast but also of prostate cancer patients. **Rossi E**, Rugge M, Facchinetti A, Pizzi M, Nardo G, Barbieri V, Manicone M, De Faveri S, Chiara Scaini M, Basso U, Amadori A, Zamarchi R. *c Oncoscience*. 2013 Dec 31;1(1):49-56. eCollection 2014. PMID: 25593983
 21. Circulating tumor cells: utopia or reality? Conteduca V, Zamarchi R, **Rossi E**, Condelli V, Troiani L, Aieta M. *Future Oncol*. 2013 Sep;9(9):1337-52. doi: 10.2217/fon.13.101. Review. PMID: 23980681
 22. Customizing CellSearch platform. **Rossi E**, Facchinetti A, Zamarchi R. *Cytometry A*. 2013 Jul;83(7):595-8. doi: 10.1002/cyto.a.22292. Epub 2013 Apr 23. No abstract available. PMID:23788416
 23. Impact of microRNAs on regulatory networks and pathways in human colorectal carcinogenesis and development of metastasis. Pizzini S, Bisognin A, Mandruzzato S, Biasiolo M, Faccioli A, Perilli L, **Rossi E**, Esposito G, Rugge M, Pilati P, Mocellin S, Nitti D, Bortoluzzi S, Zanovello P. *BMC Genomics*. 2013 Aug 29;14:589. doi: 10.1186/1471-2164-14-589. PMID:23987127
 24. Dynamic changes of live/apoptotic circulating tumour cells as predictive marker of response to sunitinib in metastatic renal cancer. **Rossi E**, Fassan M, Aieta M, Zilio F, Celadin R, Borin M, Grassi A, Troiani L, Basso U, Barile C, Sava T, Lanza C, Miatello L, Jirillo A, Rugge M, Indraccolo S, Cristofanilli M, Amadori A, Zamarchi R. *Br J Cancer*. 2012 Oct 9;107(8):1286-94. doi: 10.1038/bjc.2012.388. Epub 2012 Sep 6. PMID: 22955853
 25. Inhibition of immunoglobulin secretion from peripheral blood mononuclear cells by glucose-regulated protein94 (Grp94) in allergic subjects. Tramentozzi E, Zamarchi R, **Rossi E**, Pagetta A, Frigo G, Finotti P. *Mol Cell Biochem*. 2012 Jun;365(1-2):47-52. doi: 10.1007/s11010-012-1242-x. Epub 2012 Jan 22. PMID: 22270544
 26. Effects of glucose-regulated protein94 (Grp94) on Ig secretion from human blood mononuclear cells. Tramentozzi E, Zamarchi R, Pagetta A, Brunati AM, **Rossi E**, Tibaldi E, Finotti P. *Cell Stress Chaperones*. 2011 May;16(3):329-38. doi: 10.1007/s12192-010-0245-3. Epub 2010 Dec 1. PMID: 21120645
 27. Glycolytic phenotype and AMP kinase modify the pathologic response of tumor xenografts to VEGF neutralization. Nardo G, Favaro E, Curtarello M, Moserle L, Zulato E, Persano L, **Rossi E**, Esposito G, Crescenzi M, Casanovas O, Sattler U, Mueller-Klieser W, Biesalski B, Thews O, Canese R, Iorio E, Zanovello P, Amadori A, Indraccolo S. *Cancer Res*. 2011 Jun 15;71(12):4214-25. doi: 10.1158/0008-5472.CAN-11-0242. Epub 2011 May 5. PMID:21546569
 28. Immune response to Moloney-murine leukemia virus-induced antigens in bone marrow. Biasi G, Facchinetti A, Cappellari R, **Rossi E**, Zanovello P. *Immunol Lett*. 2011 Jul;138(1):79-85. doi: 10.1016/j.imlet.2011.03.005. Epub 2011 Mar 29. PMID:21453727
 29. M30 neopeptide expression in epithelial cancer: quantification of apoptosis in circulating

- tumor cells by CellSearch analysis. Rossi E, Basso U, Celadin R, Zilio F, Pucciarelli S, Aieta M, Barile C, Sava T, Bonciarelli G, Tumolo S, Ghiotto C, Magro C, Jirillo A, Indraccolo S, Amadori A, Zamarchi R. Clin Cancer Res. 2010 Nov 1;16(21):5233-43. doi: 10.1158/1078-0432.CCR-10-1449. Epub 2010 Oct 26. PMID:20978147
30. Circulating and disseminated tumor cells in the clinical management of breast cancer patients: unanswered questions. Amadori A, Rossi E, Zamarchi R, Carli P, Pastorelli D, Jirillo A. Oncology. 2009;76(6):375-86. doi: 10.1159/000215581. Epub 2009 Apr 30. Review. PMID: 19407470
 31. Hypoxia inducible factor-1alpha inactivation unveils a link between tumor cell metabolism and hypoxia-induced cell death. Favaro E, Nardo G, Persano L, Masiero M, Moserle L, Zamarchi R, Rossi E, Esposito G, Plebani M, Sattler U, Mann T, Mueller-Klieser W, Ciminale V, Amadori A, Indraccolo S. Am J Pathol. 2008 Oct;173(4):1186-201. doi: 10.2353/ajpath.2008.071183. Epub 2008 Sep 4. PMID:18772337
 32. The side population of ovarian cancer cells is a primary target of IFN-alpha antitumor effects. Moserle L, Indraccolo S, Ghisi M, Frasson C, Fortunato E, Canevari S, Miotti S, Tosello V, Zamarchi R, Corradin A, Minuzzo S, Rossi E, Basso G, Amadori A. Cancer Res. 2008 Jul 15;68(14):5658-68. doi: 10.1158/0008-5472.CAN-07-6341. PMID: 18632618
 33. Suppression of tumor growth and cell proliferation by p13II, a mitochondrial protein of human T cell leukemia virus type 1. Silic-Benussi M, Cavallari I, Zorzan T, Rossi E, Hiraragi H, Rosato A, Horie K, Saggiaro D, Lairmore MD, Willems L, Chieco-Bianchi L, D'Agostino DM, Ciminale V. Proc Natl Acad Sci U S A. 2004 Apr 27;101(17):6629-34. Epub 2004 Apr 20. PMID:15100416
 34. Human immunodeficiency virus type 1 Tat protein modulates cell cycle and apoptosis in Epstein-Barr virus-immortalized B cells. Colombrino E, Rossi E, Ballon G, Terrin L, Indraccolo S, Chieco-Bianchi L, De Rossi A. Exp Cell Res. 2004 May 1;295(2):539-48. PMID: 15093750
 35. Large and dissimilar repertoire of Melan-A/MART-1-specific CTL in metastatic lesions and blood of a melanoma patient. Mandruzzato S, Rossi E, Bernardi F, Tosello V, Macino B, Basso G, Chiarion-Sileni V, Rossi CR, Montesco C, Zanovello P. J Immunol. 2002 Oct 1;169(7):4017-24. PMID:12244204

Publications - Book Chapter

Early detection of prostate cancer relapse by biochemistry and diagnostic imaging. Evangelista L, Zattoni F, Rossi E, Karnes RJ, Lowe V. Q J Nucl Med Mol Imaging. 2015 Dec;59(4):359-73. Epub 2015 Jul 24. Review. PMID:26213139

Honours, awards and grants

Best Poster Award;

"CTC and RANK" ISMRC 2018 Montpellier

"Circulating Tumor Cells and cell-free DNA" Symposium "Liquid Biopsy: tracking cancer". 2016, Roma

"Bioconjugated fluorescent silica nanoparticles for immuno-fluorescence assays " GIC 2013

"Circulating Melanoma Cells "XX Annual meeting of the Italian Melanoma Intergroup 2014 TV

"Circulating Tumor Cells and NGS" Microgenomics 2014 Paris

"Circulating Melanoma Cells "XVIII Annual meeting of the Italian Melanoma Intergroup 2012 Alghero

Winner of the **Call for Targeted Research 2010** (young researchers) funded by the Italian Ministry of Health (**project code:** # GR-2010-2303193, Title :Individualized treatments of patients with advanced NSCLC:potential application for CTCs molecular and phenotypcal profiling,

Selected grants:

2004-2006: Collaborated in the project " B cell deregulation during HIV infection: the role of the HIV-1 matrix protein p17" (ISS-AIDS Project: # 40F.83 and # 40G.60).

2008-2010: collaborated in the Project Ricerca Sanitaria Finalizzata 2008 conducted at IOVIRCCS

of Padua (PI prof. A. Amadori), entitled "Predictive value and biologic significance of circulating tumour cells (CTC) in solid tumors".

2009-2012: collaborated in the "Progetto Oncologico di Medicina Molecolare: i tumori femminili" conducted at IOV-IRCCS of Padua (PI prof. P. Zanovello), working in the Task 4 of the Project entitled "Characterization of circulating tumor cells in breast and ovary cancer".

2010-2012: collaborated with IOV-IRCCS of Padua the Task 2 ("Evaluation of the CTC") of the Project "Metformin plus chemotherapy in advanced breast cancer: prognostic and predictive tools" (PIA. Gennari, IST Genova), funded by AIRC.

2011-2012: collaborated in the study " Predictive value of Circulating Melanoma Cells (CMC) in anti-BRAF treated Metastatic Melanoma" (IOV-IRCCS of Padua) of the ACC (Alleanza Contro ilCancro)/Project 3 (PI P. Zanovello, University of Padua).

2012-2016: was deputy of Clinical Coordinator of the study: Specific Programme "Cooperation" – Theme "Health", Call identifier: FP7-HEALTH-2012-INNOVATION-1, Proposal No: 305341-2, Acronym:CTCtrap (<https://www.utwente.nl/tnw/ctctrapp/>).

2014-2016: collaborated in the project "Novel strategies in metastasis research and biomarker discovery in rhabdomyosarcoma" AIRC

2015-today: I have collaborated in the project: "CANCER-ID: Cancer treatment and monitoring through identification of circulating tumor cells and tumor related nucleic acids in blood" (www.cancer-id.eu/)

2016-2018: collaborated in the project "differential genome profiling between circulating and primary tumor cells in metastatic adrenocortical carcinoma" AIRC

PI

2012-2016: was PI of the study GR2010-2303193 Title: Individualized treatments of patients with advanced NSCLC: potential application for CTCs molecular and phenotypical profiling. funded by the Italian Ministry of Health

I authorize the processing of the personal data contained in this CV in compliance with the Italian Personal Data Protection Code (Legislative Decree no. 196 of 30 June 2003).