Curriculum Vitae

Personal information

First name / Surname	**Marco Trerotola**
Address	Via dei Teatini 12, 65127 Pescara (PE), Italy
Nationality	Italian
Date of birth	16/03/1978
Place of Birth	Avellino (Italy)
Gender	Male

Contact information

Workplace	Cancer Pathology Unit, Laboratory of Molecular Medicine
	Center for Advanced Studies and Technology (CAST)
	"G.d'Annunzio" University of Chieti-Pescara, Italy
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ORCID ID:	0000-0003-1855-7002

Bibliometric indicators

H-index	21
Total number of Publications	35
Total number of Citations	1289
Total Impact Factor	189.8
H-index (last 10 years)	19
Number of publications (last 10 years)	28
Number of publications (last 5 years)	12
Number of citations (last 10 years)	1240
Average citations per publication	36.8
Impact Factor (last 10 years)	158.5
Average impact factor per publication	5.4

Education and training

Date	2008
Title of qualification awarded	PhD in Molecular Oncology and Pathology
Title of the project	Trop-2 is a novel, potent stimulator of tumor growth, strikingly widespread in human cancer.
Organization	University "G. D'Annunzio" of Chieti-Pescara (Italy)
Level in international classification	Third cycle degree / Highest academic degree

Date	2002
Title of qualification awarded	MSc *cum laude*
Title of the thesis	Design and transcriptional analysis of synthetic melanoma-specific promoters.
Organization	University "Federico II" of Naples (Italy)
Level in international classification	Second cycle degree / Master degree / First class Honour Degree

Work experience

Date	**2018 to present**
Occupation or position held	Head of the Cancer Pathology Unit, Laboratory of Molecular Medicine (CAST)
Name and address of employer	University "G. D'Annunzio" of Chieti-Pescara (Italy), via dei Vestini 31, 66100 Chieti (Italy)
Type of business or sector	Academic Research
Date	**2018 to present**
Occupation or position held	Associate Professor of Laboratory Medicine (MED46)
Name and address of employer	Department of Medical, Oral and Biotechnological Sciences (DSMOB) University "G. D'Annunzio" of Chieti-Pescara (Italy), via dei Vestini 31, 66100 Chieti (Italy)
Type of business or sector	Higher education
Date	**2015-2018**
Occupation or position held	Assistant Professor (RTDb) Programma per giovani ricercatori "Rita Levi Montalcini" – Bando 2012 from Italian Ministry of Education, Universities and Research (MIUR). Grant Number: PRG12I7N17 Role: Principal Investigator
Name and address of employer	University "G. D'Annunzio" of Chieti-Pescara (Italy), via dei Vestini 31, 66100 Chieti (Italy)
Type of business or sector	Higher Education and Academic Research
Date	**2013-2015**
Occupation or position held	Senior Scientist
Name and address of employer	CAST - University "G. D'Annunzio" of Chieti-Pescara (Italy)
Type of business or sector	Academic Research
Date	**2010-2012**
Occupation or position held	Postdoctoral Research Associate
Name and address of employer	Kimmel Cancer Center at Thomas Jefferson University, Philadelphia, PA 19107 (USA)
Type of business or sector	Academic Research
Date	**2009-2010**
Occupation or position held	Postdoctoral Research Associate
Name and address of employer	University of Massachusetts Medical School, Worcester, MA 01605 (USA)
Type of business or sector	Academic Research
Date	**2008**
Occupation or position held	Postdoctoral Research Associate
Name and address of employer	CeSI - University "G. D'Annunzio" of Chieti-Pescara (Italy)
Type of business or sector	Academic Research
Date	**2004-2008**
Occupation or position held	Graduate student (PhD Student)
Name and address of employer	CeSI - University "G. D'Annunzio" of Chieti-Pescara (Italy)
Type of business or sector	Academic Research - PhD Program in Molecular Oncology and Pathology
Date	**2002-2003**
Occupation or position held	Graduate Student (Fellowship)
Name and address of employer	Mario Negri Sud Research Institute, Santa Maria Imbaro, Chieti (Italy)
Type of business or sector	Scientific Research

Research Grants and Fellowships

Date	**2015-2018**
Grant	Programma per giovani ricercatori "Rita Levi Montalcini" – Bando 2012. Grant Number: PRG12I7N17
Funding Agency	Italian Ministry of Education, Universities and Research (MIUR)
Project Title	Pro-metastatic signaling of Trop-2: proteomic, next generation sequencing and biochemical analysis of the Trop-2-guided metastatic events, and therapeutic multitargeting.
Role	Principal Investigator
Date	**2015**
Grant	Programme H2020-SMEINST-1-2015 – Funding scheme: SME instrument phase 1. Grant Number: 719856 (Acronym: ThruBlood).
Funding Agency	European Commission Horizon 2020
Project Title	Clinical validation of Trop-2 as a serum biomarker for monitoring of disease-course in patients affected by breast and colon cancer.
Role	Staff Scientist at Oncoxx Biotech S.r.l.
Date	**2012-2015**
Grant	Smart Cities and Communities and Social Innovation. Grant Number: SCN_00558
Funding Agency	Italian Ministry of Education, Universities and Research (MIUR)
Project Title	Health @ Home.
Role	Staff Scientist at Oncoxx Biotech S.r.l.
Date	**2011-2014**
Grant	Made in Italy 2011-14. Grant Number: MI01_00424
Funding Agency	Italian Ministry of Economic Development (MiSE)
Project Title	Piattaforme intelligenti di sequenziamento per analisi genomica e diagnostica personalizzata del cancro e malattie genetiche.
Role	Staff Scientist at Oncoxx Biotech S.r.l.
Date	**2007-2013**
Grant	POR-FESR Abruzzo 2007-2013: Attività 1.1.1 linea B
Funding Agency	Regione Abruzzo (Italy)
Project Title	Validazione pre-clinica di molecole anti-Trop-2 per terapie anti-cancro.
Role	Staff Scientist at Oncoxx Biotech S.r.l. (2013)
Date	**2009**
Grant	Fellowship for research abroad Italy - "Brain Gain" Program for Abroad Research
Funding Agency	Italian Association for Cancer Research (AIRC)
Date	**2005**
Grant	Fellowship for research in Italy - Annual Regional Fellowship - Regione Abruzzo
Funding Agency	Italian Association for Cancer Research (AIRC)
Date	**2004**
Grant	Fellowship for research in Italy - Annual Fellowship "Cav. Carmelo Catanese","Giancarla Fischer", "Maria Teresa Genovese"
Funding Agency	Italian Association for Cancer Research (AIRC)

Patents

Filing Date **2020**

S. Alberti, E. Guerra, **M. Trerotola** "Piattaforma per ottenere anticorpi monoclonali diretti contro antigeni processati tumore-specifici" – Italian Patent 102020000031838 filed on 22 December 2020.

Filing Date **2016**

S. Alberti, E. Guerra, **M. Trerotola** "Use of serum Trop-2 as a new cancer biomarker" – PCT/EP2016/025148 filed on 17 November 2016, and published (WO2017/084763Al) on 26 May 2017.

Filing Date **2015**

S. Alberti, E. Guerra, **M. Trerotola** "Uso di Trop-2 circolante sierico come nuovo biomarcatore tumorale" – Italian Patent 102015000074105 filed on 18 November 2015 and approved on 26 April 2018.

Meetings and Conferences

Date **03/07/2020**

Invited Chief Speaker – One Day International Webinar : "Trends and development of biological research and academics in context to COVID-19", Organizer: Department of Microbiology, Michael Madhusudan Memorial College, Durgapur (West Bengal, India).

Date **11/06/2018**

Invited Keynote Speaker – Workshop: "New frontiers in systems biology: technological, computational and biological aspects", Lecce (Italy).

Date **01-05/04/2017**

Poster presentation - American Association for Cancer Research (AACR) 108th Annual Meeting; Washington, DC (USA).

Date **26-28/03/2015**

Invited Speaker - ME-HAD Training Course on Extracellular Vesicles, Siena (Italy).

Date **21/06/2011**

Poster presentation - 6th Annual "Thomas Jefferson University" Postdoctoral Research Symposium. *Outstanding Presenter in the "Early Discovery" Poster Session.*

Date **09-12/03/2011**

Poster presentation - Innovative Minds in Prostate Cancer Today (IMPaCT) Annual Meeting, Orlando, FL (USA).

Date **17-21/04/2010**

Poster presentation - American Association for Cancer Research (AACR) 101st Annual Meeting; Washington, DC (USA).

Date **15-17/04/2004**

Invited Speaker – Annual Meeting of the Italian Society of Biophysics and Molecular Biology (SIBBM), Cortona, Arezzo (Italy).

Awards

Date **2011**

Outstanding Presenter in the "Early Discovery" Poster Session - 6th Annual "Thomas Jefferson University" Postdoctoral Research Symposium.

Date **2006**

"Adopt-a-Scientist" ISAC Membership Award – International Society for Analytical Cytology (ISAC).

Peer-review and editing activity

Editor for the following international peer-reviewed journals:

- *Frontiers in Immunology*: Review Editor from October 2021
- *Frontiers in Oncology*: Associate Editor from September 2020
- *Plos ONE* : Academic Editor from April 2020
- *Cancers*: Invited Lead Guest Editor for a Special Issue titled "Cell Plasticity in Cancer Progression: Role of EMT, Epigenetic Regulation and Host Microenvironment", scheduled for publication in 2022.
- *Journal of Oncology*: Invited Guest Editor for the Special Issue titled "Cancer Cell Plasticity", published in 2019.

Reviewer for the following international peer-reviewed journals:

- Plos ONE
- OncoTargets and Therapy
- Frontiers in Oncology
- Frontiers in Genetics
- Cancers
- Aging
- Discover Oncology
- Postgraduate Medicine

National and International research collaborations

Pietro Roversi (IBBA-CNR Milano, Italy), Saverio Alberti (University of Messina, Italy), Daniele Vergara (University of Salento, Italy), Alessandra Renieri (University of Siena, Italy), Michel Salzet (University of Lille, France), Valeria Caiolfa and Moreno Zamai (CNIC Madrid, Spain), Riccardo Fodde and Andrea Sacchetti (Erasmus MC Cancer Institute, Rotterdam, The Netherlands), Lucia R. Languino (Thomas Jefferson University, Philadelphia, USA), Hiromitsu Nakauchi (School of Medicine, Stanford University, USA), William G. Kerr (SUNY Upstate Medical University, Syracuse USA).

Teaching activity

Frontal teaching activity at the University "G. D'Annunzio" of Chieti-Pescara (Italy):

- *2022 to present* : PhD program "Biomolecular and Pharmaceutical Sciences";
- *2022 to present* : 2 credits (CFU), Post-graduate Course in Laboratory Medicine, Specialization Degree in Clinical Biochemistry and Molecular Biology, 1st and 2nd years;
- *2020 to present* :
  - 2 credits (CFU), Degree Course "Obstetrics and Gynecology", 2nd year seminars;
  - Degree Course "Dentistry", Coordinator, Course of Laboratory Medicine; 3rd year.
- *2018 to present* :
  - 2 credits (CFU), Degree Course "Techniques of Biomedical Laboratory", Course of Molecular Diagnostic Techniques in Clinical Pathology; 3rd year.
  - 2 credits (CFU), Degree Course "Dentistry", Course of Laboratory Medicine; 3rd year.
- *2017-2018* :
  - 1 credit (CFU), Degree Course "Techniques of Biomedical Laboratory", Course of Molecular Diagnostic Techniques in Clinical Pathology II; 3rd year.
  - 1 credit (CFU), Degree Course "Techniques of Biomedical Laboratory", Course of Molecular Diagnostic Techniques in Clinical Pathology I; 3rd year.

Other teaching activities:

- 2021 to present : co-tutoring of the PhD student M. Ceci, PhD program "Innovative Technologies in Clinical Medicine and Dentistry", University "G. D'Annunzio" of Chieti-Pescara (Italy);
- 2019-2021 : Degree tutor of the student L. Pantalone, Degree Course "Techniques of Biomedical Laboratory", University "G. D'Annunzio" of Chieti-Pescara (Italy)
- 2009. Laboratory training of graduate students at the UMass Medical School and at the Thomas Jefferson University (USA).
- 2004-2008. Laboratory training of undergraduate students, University "G. D'Annunzio" of Chieti-Pescara (Italy).

Peer-reviewed Publications

1. Romani, A., Guerra, E., **Trerotola, M**. and Alberti, S. Detection and analysis of spliced chimeric mRNAs in sequence databanks. *Nucleic Acids Research*, 31:e17 (2003). PMID: 12582262 PMCID: PMC150249
2. **Trerotola, M.**, Vacca, G., Piantelli, M., Alberti, S. Proteomics analysis of solid tumors. *Pathologica*, 97(4), pp. 189-190 (2005). PMID: 16440651
3. Zanna, P., **Trerotola, M.**, Vacca, G., Bonasera, V., Palombo, B., Guerra, E., Rossi, C., Lattanzio, R., Piantelli, M. and Alberti, S. Trop-1 are conserved growth stimulatory molecules that mark early stages of tumor progression. *Cancer*, Jul 15;110(2):452-464 (2007). PMID: 17559145 DOI: 10.1002/cncr.22785
4. Guerra, E., **Trerotola, M.**, Dell' Arciprete, R., Bonasera, V., Palombo, B., El-Sewedy, T., Ciccimarra, T., Crescenzi, C., Lorenzini, F., Rossi, C., Vacca, G., Lattanzio, R., Piantelli, M. and Alberti, S. A bicistronic CYCLIN D1-TROP2 mRNA chimera demonstrates a novel oncogenic mechanism in human cancer. *Cancer Research*, Oct 1;68(19):8113-8121 (2008). PMID: 18829570 DOI: 10.1158/0008-5472.CAN-07-6135
5. **Trerotola M.**, Guerra E. and Alberti S. Letter to the Editor: Efficacy and safety of anti-Trop antibodies. *Biochimica Biophysica Acta*, Apr;1805(2):119-120 (2010). PMID: 20079406 DOI: 10.1016/j.bbcan.2009.12.002
6. **Trerotola M.**, Rathore S., Goel HL., Li J., Alberti S., Piantelli M., Adams D., Jiang Z. and Languino LR. CD133, Trop-2 and α2β1 Integrin Surface Receptors as Markers of Putative Human Prostate Cancer Stem Cells. *American Journal of Translational Research*, 2(2):135-144 (2010). PMID: 20407603 PMCID: PMC2855629
7. Saxena P., **Trerotola M. ***, Wang T., Li J., Sayeed A., VanOudenhove J., Adams DS., Fitzgerald TJ., Altieri DC. and Languino LR. PSA regulates Androgen Receptor expression in prostate cancer cells. *Prostate*, May 15;72(7):769-776 (2012). **** co-first author*** PMID: 21956655 PMCID: PMC3404455 DOI: 10.1002/pros.21482
8. Sayeed A., Alam N., **Trerotola M.**, Languino LR. Insulin-like growth factor 1 stimulation of androgen receptor activity requires β(1A) integrins. *Journal of Cellular Physiology*, Feb;227(2):751-758 (2012). PMID: 21465482 PMCID: PMC3195902 DOI: 10.1002/jcp.22784
9. **Trerotola M.**, Li J., Alberti S., Languino LR. Trop-2 inhibits prostate cancer cell adhesion to fibronectin through the β1 integrin-RACK1 axis. *Journal of Cellular Physiology*, Nov;227(11):3670-3677 (2012). PMID: 22378065 PMCID: PMC3369113 DOI: 10.1002/jcp.24074
10. Plebani R., Oliver GR., **Trerotola M.**, Guerra E., Cantanelli P., Apicella L., Emerson A., Albiero A., Harkin PD., Kennedy RD. and Alberti S. Long-range transcriptome sequencing reveals cancer cell growth regulatory chimeric mRNAs. *Neoplasia*, Nov;14(11):1087-1096 (2012). PMID: 23226102 PMCID: PMC3514740 DOI: 10.1593/neo.121342
11. **Trerotola M.**, Cantanelli P., Guerra E., Tripaldi R., Aloisi AL., Bonasera V., Lattanzio R., de Lange R., Weidle UH., Piantelli M. and Alberti S. Up-regulation of Trop-2 quantitatively stimulates human cancer growth. *Oncogene*, Jan 10; 32(2):222-233 (2013). PMID: 22349828 DOI: 10.1038/onc.2012.36
12. Guerra E., **Trerotola M.**, Aloisi AL., Tripaldi R., Vacca G., La Sorda R., Lattanzio R., Piantelli M. and Alberti S. The Trop-2 signalling network in cancer growth. *Oncogene*, Mar 21; 32(12):1594-600 (2013). PMID: 22562244 DOI: 10.1038/onc.2012.151
13. **Trerotola M.,** Jernigan D.L., Liu Q., Siddiqui J., Fatatis A. and Languino LR. Trop-2 promotes prostate cancer metastasis by modulating β1 integrin functions. *Cancer Research*, May 15;73(10):3155-67 (2013). PMID: 23536555 PMCID: PMC3655712 DOI: 10.1158/0008-5472.CAN-12-3266
14. Sayeed A., Fedele C., **Trerotola M.**, Ganguly KK. and Languino LR. IGF-IR promotes prostate cancer growth by stabilizing α5β1 integrin protein levels. *PLoS ONE*, 8(10): e76513 (2013). PMID: 24130778 PMCID: PMC3793919 DOI: 10.1371/journal.pone.0076513
15. Ambrogi F., Fornili M., Boracchi P., **Trerotola M.**, Relli V., Simeone P., La Sorda R., Lattanzio R., Querzoli P., Pedriali P., Piantelli M., Biganzoli E. and Alberti S. Trop-2 is a determinant of breast cancer survival. *PLoS ONE*, 8(5): e96993 (2014). PMID: 24824621 PMCID: PMC4019539 DOI: 10.1371/journal.pone.0096993

16. Simeone P., **Trerotola M.**, Urbanella A., Lattanzio R., Ciavardelli D., Di Giuseppe F., Eleuterio E., Sulpizio M., Eusebi V., Pession A., Piantelli M. and Alberti S. A unique four-hub protein cluster associates to glioblastoma progression. *PLoS ONE*, 9(7): e103030 (2014). PMID: 25050814 PMCID: PMC4106866 DOI: 10.1371/journal.pone.0103030

17. Vergara D., Simeone P., Latorre D., Cascione F.; Leporatti S., **Trerotola M.**, Giudetti A.M., Capobianco L., Lunetti P., Rizzello A., Rinaldi R., Alberti S. and Maffia M. Proteomics analysis of E-Cadherin knockdown in epithelial breast cancer cells. *Journal of Biotechnology*, 202: 3-11 (2015). PMID: 25449012 DOI: 10.1016/j.jbiotec.2014.10.034

18. **Trerotola M.**, Ganguly KK., Fazli L., Fedele C., Lu H., Dutta A., Liu Q., De Angelis T., Riddell LW., Riobo NA., Gleave ME., Zoubeidi A., Pestell RG., Altieri DC. and Languino LR. Trop-2 is up-regulated in invasive prostate cancer and displaces FAK from focal contacts. *Oncotarget* 6(16):14318-28 (2015). PMID: 26015409 PMCID: PMC4546469 DOI: 10.18632/oncotarget.3960

19. **Trerotola M.**, Relli V., Simeone P. and Alberti S. Epigenetic inheritance and the missing heritability (Review). *Human Genomics* 9:17 (2015). PMID: 26216216 PMCID: PMC4517414 DOI: 10.1186/s40246-015-0041-3

20. Talati PG., Gu L., Ellsworth EM., Girondo MA., **Trerotola M.**, Hoang DT., Leiby B., Dagvadorj A., McCue PA., Lallas CD., Trabulsi EJ., Gomella L., Aplin AE., Languino LR., Fatatis A., Rui H., Nevalainen MT. Jak2-Stat5a/b Signaling Induces Epithelial-to-Mesenchymal Transition and Stem-Like Cell Properties in Prostate Cancer. *The American Journal of Pathology* 185(9): 2505-2522 (2015). PMID: 26362718 PMCID: PMC4597281 DOI: 10.1016/j.ajpath.2015.04.026

21. Guerra E., **Trerotola M.**, Tripaldi R., Aloisi AL., Simeone P., Sacchetti A., Relli V., D'Amore A., La Sorda R., Lattanzio R., Piantelli M. and Alberti S. Trop-2 induces tumor growth through Akt and determines sensitivity to Akt inhibitors. *Clinical Cancer Research* 22(16): 4197-4205 (2016). PMID: 27022065 DOI: 10.1158/1078-0432.CCR-15-1701

22. Vergara D., Simeone P., Franck J., **Trerotola M.**, Giudetti A., Capobianco L., Tinelli A., Bellomo C., Fournier I., Gaballo A., Alberti S., Salzet M. and Maffia M. Translating epithelial mesenchymal transition markers into the clinic: Novel insights from proteomics (Review). *EuPa Open Proteomics* 10: 31-41 (2016). PMID: 29900098 DOI: 10.1016/j.euprot.2016.01.003

23. Vergara D., Stanca E., Guerra F., Priore P., Gaballo A., Franck J., Simeone P., **Trerotola M.**, De Domenico S., Fournier I., Bucci C., Salzet M., Giudetti AM. and Maffia M. β-catenin knockdown affects mitochondrial biogenesis and lipid metabolism in breast cancer cells. *Frontiers in Physiology* 8:544 (2017). PMID: 28798698 DOI: 10.3389/fphys.2017.00544

24. Relli V., **Trerotola M.**, Guerra E. and Alberti S. Distinct lung cancer subtypes associate to distinct drivers of tumor progression. *Oncotarget* 9(85): 35528-35540 (2018). PMID: 30473748 DOI: 10.18632/oncotarget.26217

25. Simeone P., **Trerotola M.**, Franck J., Tristan C., Marchisio M., Fournier I., Salzet M., Maffia M. and Vergara D. The multiverse nature of epithelial to mesenchymal transition (Review). *Seminars in Cancer Biology* 58: 1-10 (2019). PMID: 30453041 DOI: 10.1016/j.semcancer.2018.11.004

26. Relli V., **Trerotola M.**, Guerra E., Alberti S. Abandoning the Notion of Non-Small Cell Lung Cancer. *Trends in Molecular Medicine* 25(7): 585-594 (2019). PMID: 31155338 DOI: 10.1016/j.molmed.2019.04.012

27. Vergara D., Simeone P., Damato M., Maffia M., Lanuti P. and **Trerotola M.** The cancer microbiota: EMT and inflammation as shared molecular mechanisms associated with plasticity and progression. *Journal of Oncology* Oct 20: 1253727 (2019) Article ID: 1253727 PMID: 31772577 DOI: 10.1155/2019/1253727.

28. Vergara D., Verri T., Damato M., **Trerotola M.**, Simeone P., Franck J., Fournier I., Salzet M., Maffia M. A hidden human proteome signature characterizes the Epithelial Mesenchymal Transition program. *Current Pharmaceutical Design* 26(3): 372-375 (2020). PMID: 31995001 DOI: 10.2174/1381612826666200129091610.

29. **Trerotola M.**, Guerra E., Ali Z., Aloisi AL., Ceci M., Simeone P., Acciarito A., Zanna P., Vacca G., D'Amore A., Boujnah K., Garbo V., Moschella A., Lattanzio R., and Alberti S.

Trop-2 cleavage by ADAM10 is an activator switch for cancer growth and metastasis. *Neoplasia* 23(4): 415-428 (2021). PMID: 33839455 DOI: 10.1016/j.neo.2021.03.006

30. Zallocco L., Giusti L., Ronci M., Mussini M., **Trerotola M.**, Mazzoni MR., Lucacchini A. and Sebastiani L. Salivary Proteome Changes in Response to Acute Psychological Stress due to an Oral Exam Simulation in University Students: Effect of an Olfactory Stimulus. *International Journal of Molecular Sciences* 22: 4295 (2021). PMID: 33919012 DOI: 10.3390/ijms22094295

31. Guerra E., **Trerotola M.***, Relli V., Lattanzio R., Tripaldi R., Vacca G., Ceci M., Boujnah K., Garbo V., Moschella A., Zappacosta R., Simeone P., de Lange R., Weidle UH., Rotelli MT., Picciariello A., Depalo R., Querzoli P., Pedriali M., Bianchini E., Angelucci D., Pizzicannella G., Di Loreto C., Piantelli M., Antolini L., Sun X-F., Altomare DF. and Alberti S. Trop-2 induces ADAM10-mediated cleavage of E-cadherin and drives EMT-less metastasis in colon cancer. *Neoplasia* 23(9): 898-911 (2021). PMID: 34320447 DOI: 10.1016/j.neo.2021.07.002 ***co-first author***

32. Guerra E., Di Pietro R., Basile M., **Trerotola M.**, and Alberti S. Cancer-homing CAR-T cells and endogenous immune population dynamics (Review). *International Journal of Molecular Sciences* 23(1): 405 (2022). PMID: DOI: 10.3390/ijms23010405

33. **Trerotola M.**, Antolini L., Beni L., Guerra E., Spadaccini M., Verzulli D., Moschella A. and Alberti S. A deterministic code for transcription factor-DNA recognition through computation of binding interfaces. *NAR Genomics and Bioinformatics*, 4(1):lqac008 (2022). DOI: 10.1093/nargab/lqac008

34. Guerra E., Relli V., Ceci M., Tripaldi R., Simeone P., Aloisi AL., Pantalone L., La Sorda R., Lattanzio R., Sacchetti A., Havas K., Guarnieri S., Vergara D., Fournier I., Salzet M., Tinari N., Piantelli M., **Trerotola M.*** and Alberti S. Trop-2, Na^+/K^+ ATPase, CD9, PKCα, cofilin assemble a membrane signaling super-complex that drives colorectal cancer growth and invasion. *Oncogene* 41(12):1795-1808 (2022). DOI: 10.1038/s41388-022-02220-1 PMID: 35132180 ***co-last and co-corresponding author***

35. Giusti L., Tesi M., Ciregia F., Marselli L., Zallocco L., Suleiman M., De Luca C., Del Guerra S., Zuccarini M., **Trerotola M.**, Eizirik DL., Cnop M., Mazzoni MR., Marchetti P., Lucacchini A. and Ronci M. The protective action of metformin against pro-inflammatory cytokine-induced human islet cell damage and the mechanisms involved. *Cells* 2022 **(in press)**.

Abstracts

1. Alberti, S., Vacca, G., **Trerotola, M.**, Guerra, E., Rossi, C., La Sorda, R., Lattanzio, R., and Piantelli, M. Trop-2 is a novel PKC-dependent growth-stimulator trans-membrane molecule and a metastasis marker in human cancer, *Proceedings of the American Association for Cancer Research*, Volume 47, 2006.
2. Alberti, S., **Trerotola, M.**, Emerson, A., and Rossi, E. An automated approach to the in-silico identification of chimeric mRNAs, *2006 annual meeting of the Italian Society of Bioinformatics (BITS)*, 28-29 April 2006; Bologna (Italy).
3. Alberti, S., **Trerotola, M.**, Vacca, G., Zappacosta, R., Rossi, C., Guerra, E., Bonasera, V., Lasorda, R., Lattanzio, R., Bianchini, E. and Piantelli, M. Comparative global gene expression analysis identifies TROP2 as a major determinant of growth and metastatic spreading of human cancer, *98th AACR Annual Meeting*, Los Angeles, CA. 14-18April 2007.
4. Alberti, S., **Trerotola, M.**, Vacca, G., Zappacosta, R., Rossi, C., Guerra, E., Bonasera, V., Lasorda, R., Lattanzio, R. and Piantelli, M. TROP2 is a major determinant of growth and metastatic spreading of human cancer, *Journal of Clinical Oncology, 2007 ASCO Annual Meeting Proceedings Part I.* Vol 25, No. 18S (June 20 Supplement), 2007: 10510.
5. Alberti, S., **Trerotola, M.**, Vacca, G., Zappacosta, R., Rossi, C., Guerra, E., Bonasera, V., Lasorda, R., Lattanzio, R. and Piantelli, M. Novel role of TROP2 in breast cancer growth and metastatization, *The 2007 Breast Cancer Symposium*, San Francisco, CA. 7-8 September 2007.
6. **Trerotola M.**, Alberti S. and Languino LR. Trop2 modulates β1 integrin-mediated adhesion and migration of prostate cancer cells. *101st AACR Annual Meeting*, Washington, DC. 17-21 April 2010.
7. Alberti S., **Trerotola M.**, Guerra E., Havas K., Lattanzio R., Lasorda R., Bonasera V., Vacca G., Aloisi AL., Piantelli M. Trop-2 is a universal cancer growth stimulator through a ubiquitous signaling platform. *101st AACR Annual Meeting*, Washington, DC. 17-21 April 2010.
8. **Trerotola M.**, Alberti S., Goel HL. and Languino LR. β1 integrin-mediated migration of prostate cancer cells is stimulated by the transmembrane protein Trop-2. *Innovative Minds in Prostate Cancer Today (IMPaCT) Meeting*, Orlando, FL. 9-12 March 2011.
9. Guerra E., **Trerotola M.**, Relli V., Pedicone C., D' Amore A., Dini F., Fratarcangeli S., Alberti S.Two novel anti Trop-2 monoclonal antibodies with unique binding specificities exhibit broad anti-tumor efficacy in human cancer. *108th AACR Annual Meeting*, Washington, DC (USA), 01-05 April 2017.
10. **Trerotola M**., Relli V., Tripaldi R., Sacchetti A., Havas K., Simeone P., Guerra E., Aloisi AL., La Sorda R., Lattanzio R., Vergara D., Fournier I., Salzet M., Piantelli M. and Alberti S. Trop-2 activates a dormant Na^+/K^+-ATPase/PKCa/CD9/Ezrin signaling axis to override the basal growth program of cancer cells. *108th AACR Annual Meeting*, Washington, DC (USA), 01-05 April 2017.
11. Guerra E., **Trerotola M.**, Relli V., Pedicone C., D' Amore A., Dini F., Fratarcangeli S., Alberti S. Novel domain-targeted anti–Trop2 monoclonal antibodies exhibit complementary binding and synergic antitumor efficacy in multiple human cancers. *EACR-AACR-SIC 2017 Special Conference*, Firenze (Italy), 24-27 June 2017.
12. Guerra E., Altomare DF., Depalo R., Rotelli MT., Picciariello A., Piscitelli D., **Trerotola M.**, Lattanzio R., Alberti S. Circulating serum Trop-2 as a new colorectal cancer biomarker. *13th ESCP Scientific and Annual Meeting*, Nice (France), 28 September 2018.
13. Basile M., Stati G., Sancilio S., **Trerotola M.**, Guerra E., Alberti S., Di Pietro R. Human amniotic membrane sub-regions show different morpho-functional features useful in the field of regenerative medicine. *X Meeting SCR Italy*, Napoli (Italy), 05-07 June 2019.
14. Alberti S., **Trerotola M.**, Relli V., Lattanzio R., Ceci M., Boujnah K., Garbo V., Moschella A., Querzoli P., Pedriali M., Antolini L., Guerra E. Trop-2 inactivation of E-cadherin drives triple negative breast cancer relapse, *San Antonio Breast Cancer Virtual Symposium*, San Antonio, TX (USA). 8-11 December 2020.
15. Guerra E., Germanà E., Giuffrè G., **Trerotola M.**, Alberti S. Definition of the molecular mechanism of human amyloid corneal dystrophy, *XXIII Congresso Nazionale SIGU Virtual Edition*, 11-13 November 2020.
16. Alberti S., **Trerotola M.**, Lattanzio R., Guerra E. *TROP1/EPCAM* ablation in mice drives congenital tufting enteropathy, *XXIII Congresso Nazionale SIGU Virtual Edition*, 11-13 November 2020.
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18. Alberti S., Guerra E., Lattanzio R., Boujnah K., Garbo V., Moschella A., Altomare D., Depalo R., **Trerotola M.**, Trop-2 inactivates E-cadherin and drives metastasis in most aggressive cancer types. *ASCB CellBio Virtual Meeting 2020*, 2-16 December 2020.
19. Alberti, S., Guerra E., Altomare D., Depalo R., **Trerotola, M.**, Inactivation of E-cadherin by Trop-2 drives colon cancer metastasis, *Journal of Clinical Oncology, 2021 Gastrointestinal Cancers Symposium.* Vol 39, No. 3_suppl (June 20, 2021): 105.
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21. Alberti S., Guerra E., Lattanzio R., Ceci M., Boujnah K., Relli V., Garbo V., Moschella A., Altomare DF., Depalo R., **Trerotola M.**, E-cadherin inactivation by Trop-2 drives EMT-less metastatic relapse in triple-negative breast cancer. *ESMO Breast Cancer Virtual Congress*, 05-08 May 2021.
22. Alberti S., Guerra E., Ceci M., Ali Z., Aloisi AL., Simeone P., Garbo V., Moschella A., Lattanzio R., **Trerotola M.**, Trop-2 cleavage by ADAM10 is an activator switch for cancer growth and metastasis. *EACR 2021 Virtual Congress*, 09-12 June 2021.
23. Alberti S., **Trerotola M.**, and Guerra E. The Hu2G10 tumor-selective anti–Trop-2 monoclonal antibody targets the cleaved-activated Trop-2 ablates growth of multiple human cancers. *AACR Annual Meeting 2022*, 08-13 April 2022.

Memberships

Date **2012-2014**

American Association for the Advancement of Science (AAAS) / Science Program for Excellence in Science – Complimentary Membership

Date **2010**

American Society for Cell Biology (ASCB) – Member

Date **2009 to present**

American Association for Cancer Research (AACR) – Active Member (ID 230418).

Date **2019 to present**

Member of the Board of the Abruzzo Section of the Italian Society for Translational Research and Health Professions – SIRTEPS (Società Italiana Ricerca Traslazionale e Professioni Sanitarie).

Technical skills and competences

Main areas of expertise are described below.

CELL BIOLOGY

- Advanced in vitro cell cultures: 2D, 3D, use of specialized extracellular matrices, co-cultures;

- Advanced in vitro assays: cell proliferation/survival/death in controlled conditions (such as nutrient/hormone enrichment/deprivation); cell-to-cell and cell-to-microenvironment analysis; transmembrane receptor recycling and intracellular trafficking; assessment of pharmacological agents (such as chemiotherapeutics, antibody drug conjugates, signaling agonists/inhibitors etc.);

MICROSCOPY

- Confocal/fluorescence/immunofluorescence microscopy; live cell tracking microscopy for dynamic analysis of cell movements, migration and invasion; cytoskeletal dynamics; analysis of focal adhesions, podosomes, invadopodia, and of extracellular matrix degradation; advanced assessment of angiogenesis and neoangiogenesis; dynamic confocal time-lapse microscopy for assessment of protein-protein interactions by fluorescence recovery after photobleaching (FRAP), use of engineered GFPs (tripartite split-GFP).

MOLECULAR BIOLOGY

- Gene editing techniques based on CRISPR/Cas9;

- Recombinant DNA technologies, site-specific mutagenesis, generation of fluorescent chimeras of genes-of-interest with GFP and corresponding spectral variants (e.g. CFP, YFP, mCherry, etc.);

- Generation and use of recombinant retroviruses and lentiviruses for overexpression or RNAi-dependent downregulation of specific genes.

SIGNAL TRANSDUCTION

- Analysis of signal transduction processes, by integration of cell biology, fluorescence/confocal microscopy, flow cytometry, biochemistry and proteomics techniques for multiparametric investigation of cell signaling networks in physiology and pathology;

- Innovative approaches of interactomics for analysis of macromolecular complexes;

- Isolation, characterization and use of extracellular vesicles and exosomes for analysis of signal transduction processes and cellular phenotypes;

- Quantification and assessment of circulating biomarkers for non-invasive identification of pathological signatures;

- Bioinformatic approaches for multiparametric analysis of signal trasduction networks (including IPA-Ingenuity, Peaks Studio Xpro, iLINCS, single-cell t-SNE analysis).

PRE-CLINICAL MODELS

Expertise in this area involve analysis in vivo using animal models of disease. Strong experience has been gained during the postdoctoral training at University of Massachusetts Medical School (Worcester, MA, USA) and at Thomas Jefferson University (Philadelphia, PA, USA), as documented by IACUC and AALAS examination certificates.

Specific technical skills include:

- Generation of xenografts by injections of cells (including fluorescent/GFP-expressing cells, and bioluminescent cells) in mouse models through various routes (subcutaneous, intraperitoneal, intracardiac, intravenous), and short-/long-term evaluation of specific phenotypes (including in vivo bioimaging);

- Treatment with specific drugs and multiparametric evaluation of the animal's response to treatment.

Personal skills and competences

Mother tongue(s) **Italian**

Other language(s) **English**

Self-assessment	Understanding		Speaking		Writing
European level (*)	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C1	C1	C1

(*) Common European Framework of Reference for Languages

Social skills and competences

As teacher and group leader, I've been appreaciated by my colleagues for my ability to listen, respect and openly discuss others' opinions and viewpoints, from those of senior scientists as well as those from undergraduate and graduate students. I always promote the concept of teamwork, and I value everyone's contributions and time.

I recognize the needs of my colleagues, and I try to support and motivate them to improve their knowledge and skills. For example, a PhD student is currently co-tutored by myself and a colleague of mine, with the aim of giving her the opportunity to learn and improve scientific competencies and technical skills; a laboratory technician (BSc) working in my lab is also enrolled in a Master Degree Program to improve her education level, obtain a MSc degree and be entitled to apply for a PhD program. I've been appreciated for my enthusiasm and full support in this decision.

I always pay very much attention to the gender equality aspect. Indeed, my lab is currently composed of one man (myself) and three women (senior scientist, PhD student and laboratory technician). I plan to give high priority to gender balance also for the recruitment of additional people in the future.