



Curriculum Vitae

Personal information **Concetta Quintarelli**

Work experience

1. Employer: Federico II University of Naples
 - Start date: 082022
 - End date:
 - Position: Associate Professor
 - Activities: Haematology
 - Country: Italy
2. Employer: Bambino Gesù Children Hospital
 - Start date: 082020
 - End date:
 - Position: Head of the Unit Cell and Innovative Therapy
 - Activities: Coordination of the clinical translation of ATMP; Coordination of the patient monitoring after CAR T infusion.
 - Country: Italy
3. Employer: Bambino Gesù Children Hospital
 - Start date: 122014
 - End date:
 - Position: Head of the Research Unit of "Cell and Gene Therapy for Pediatric Tumors" –
 - Activities: Design new ATMP based on Immunotherapy approaches for patients with cancer
 - Country: Italy
4. Employer: Federico II University of Naples
 - Start date: 112007
 - End date: 082022
 - Position: Faculty
 - Activities: Department of Clinical medicine and Surgery _ University Classes
 - Country: Italy
5. Employer: Baylor College of Medicine _ Houston Texas
 - Start date: 032005
 - End date: 022009
 - Position: Post_doctoral fellowship in Translational research
 - Activities: Translational researches in the field of cancer immunotherapy
 - Country: United States
6. Employer: Center of Genetic Engineering _ CEINGE
 - Start date: 012004
 - End date: 012007
 - Position: Junior Research Fellowship (MIUR Rome project PS35_126/IND, Italy)
 - Activities: Molecular and cellular Biology for the characterization of target therapies for haematologic tumors
 - Country: Italy
7. Employer: Federico II University of Naples
 - Start date: 102001
 - End date: 012004
 - Position: PhD student
 - Activities: Molecular and cellular Biology for the characterization of novel target antigen in patients affected by Acute Myeloid Leukemia
 - Country: Italy
8. Employer: Federico II University of Naples
 - Start date: 111999
 - End date: 072001
 - Position: Bachelor's research Internship
 - Activities: Molecular and cellular biology for the characterization of novel mutation in FLT3 transcript in patients affected by Acute Myeloid Leukemia
 - Country: Italy

Education and training

1. Subject: Federico II University of Naples
 - Start date: 102005
 - End date: 012010
 - Qualification: Specialty with honour
 - Organisation: Biochemistry, Molecular Biology and Medical Biotechnology
 - Country: Italy
2. Subject: Federico II University of Naples
 - Start date: 102001
 - End date: 032005
 - Qualification: Doctor of Philosophy
 - Organisation: Medical Biotechnology Science
 - Country: Italy
3. Subject: Federico II University of Naples
 - Start date: 091996
 - End date: 072001
 - Qualification: Master Degree with honour

- Organisation: Medical Biotechnology Science
- Country: Italy

Additional information

Publications

1. NK cells as adoptive cellular therapy for hematological malignancies: Advantages and hurdles. Simona Caruso, Biagio De Angelis, Simona Carlomagno, Francesca Del Bufalo, Simona Sivori, Franco Locatelli, Concetta Quintarelli. *Seminars in Hematology*. Oct 2020. doi:10.1053/j.seminhematol.2020.10.004

2. Stimuli responsive nanoparticle assisted immunotherapy: a new weapon against solid tumours. De Angelis B, Depalo N, Petronella F, Quintarelli C, Curri ML, Pani R, Calogero A, Locatelli F, De Sio L. *J Mater Chem B*. 2020 Mar 4;8(9):1823-1840. doi: 10.1039/c9tb02246e

3. Universal Ready-to-Use Immunotherapeutic Approach for the Treatment of Cancer: Expanded and Activated Polyclonal $\gamma\delta$ Memory T Cells. Polito VA, Cristantielli R, Weber G, Del Bufalo F, Belardinilli T, Arnone CM, Petretto A, Antonucci L, Giorda E, Tumino N, Pitisci A, De Angelis B, Quintarelli C, Locatelli F, Caruana I. *Front Immunol*. 2019 Nov 22;10:2717. doi: 10.3389/fimmu.2019.02717

4. Efficacy of third-party chimeric antigen receptor modified peripheral blood natural killer cells for adoptive cell therapy of B-cell precursor acute lymphoblastic leukemia. Quintarelli C, Sivori S, Caruso S, Carlomagno S, Falco M, Boffa I, Orlando D, Guercio M, Abbaszadeh Z, Sinibaldi M, Di Cecca S, Camera A, Cembrola B, Pitisci A, Andreani M, Vinti L, Gattari S, Del Bufalo F, Algeri M, Li Pira G, Moseley A, De Angelis B, Moretta L, Locatelli F. *Leukemia*. 2020 Apr;34(4):1102-1115. doi: 10.1038/s41375_019_0613_7

5. NK Cell Based Immunotherapy for Hematological Malignancies. Sivori S, Meazza R, Quintarelli C, Carlomagno S, Della Chiesa M, Falco M, Moretta L, Locatelli F, Pende D. *J Clin Med*. 2019 Oct 16;8(10). pii: E1702. doi: 10.3390/jcm8101702

6. Human CAR NK Cells: A New Non-viral Method Allowing High Efficient Transfection and Strong Tumor Cell Killing. Ingegnere T, Mariotti FR, Pelosi A, Quintarelli C, De Angelis B, Tumino N, Besi F, Cantoni C, Locatelli F, Vacca P, Moretta L. *Front Immunol*. 2019 Apr 30;10:957. doi: 10.3389/fimmu.2019.00957. PMID: 31114587

7. Combinations of immuno-checkpoint inhibitors predictive biomarkers only marginally improve their individual accuracy. Palocco M, Angeli D, Palombo F, Sperati F, Milella M, Goeman F, De Nicola F, Fanciulli M, Nisticò P, Quintarelli C, Ciliberto G. *J Transl Med*. 2019 Apr 23;17(1):131. doi: 10.1186/s12967_019_1865_8

8. The biological resources and molecule archives organization: turn a need into an opportunity for the Smart Specialization Strategy of the Lazio region. Bravo E, Franchin T, Santoro F, Conti L, Carrara S, Marino M, Di Caro A, Cigliana G, Mandoj C, Baselice S, Daniele N, Giampaoli S, Quintarelli C, Salerno M, Zinno F, Russo G, Errico MC, Minghetti L, Ricciardi W, Napolitano M. *Recent Prog Med*. 2019 Feb;110(2):68-74. doi: 10.1701/3112.31001

9. Role of IFN γ in immune-mediated graft failure occurring after allogeneic hematopoietic stem cell transplantation. Merli P, Caruana I, De Vito R, Strocchio L, Weber G, Del Bufalo F, Buatois V, Montanari P, Cefalo MG, Pitisci A, Algeri M, Galaverna F, Quintarelli C, Cirillo V, Pagliara D, Ferlini W, Ballabio M, De Min C, Locatelli F. *Haematologica*. 2019 Feb 21. doi: 10.3324/haematol.2019.216101

10. Antigen specificity and DTIC before peptide vaccination differently shape immune-checkpoint expression pattern, anti-tumor functionality and TCR repertoire in melanoma patients. Palermo B, Franzese O, Donna CD, Panetta M, Quintarelli C, Sperduti I, Gualtieri N, Foddai ML, Proietti E, Ferraresi V, Ciliberto G, Nisticò P. *Oncoimmunology*. 2018 Sep 11;7(12):e1465163. doi:10.1080/2162402X.2018.1465163

11. Adoptive immunotherapy in medulloblastoma with T cells redirected toward tumor cells through prame-specific α TCR gene modification. Orlando D, Miele E, De Angelis B, Guercio M, Boffa I, Sinibaldi M, Po A, Caruana I, Abballe L, Carai A, Moseley A, Hagedoorn RS, Heemskerck MHM, Giangaspero F, Mastronuzzi A, Ferretti E, Locatelli F, Quintarelli C. *Cancer Res*. 2018 Jun 15;78(12):3337-3349. doi: 10.1158/0008_5472

12. Choice of costimulatory domains and of cytokines determines CAR T-cell activity in neuroblastoma. Quintarelli C, Orlando D, Boffa I, Guercio M, et al. *Oncoimmunology*. 2018 Mar 15;7(6):e1433518. doi: 10.1080/2162402X.2018.1433518

13. The EURE-CART project as a prototype model for CAR T-cell immunotherapy in Europe. Locatelli F, Quintarelli C. *Eur J Immunol*. 2018 Feb;48(2):216-219. doi: 10.1002/eji.201870029

14. Bevacizumab-mediated tumor vasculature remodelling improves tumor infiltration and antitumor efficacy of GD2-CAR T cells in a human neuroblastoma preclinical model. September 2017. Accepted for publication in *Oncoimmunology*.

15. Li Pira G, Di Cecca S, Biagini S, Girolami E, Cicchetti E, Bertaina V, Quintarelli C, Caruana I, Lucarelli B, Merli P, Pagliara D, Pomponia Brescia L, Bertaina A, Montanari M, Locatelli F. Preservation of antigen specific functions of $\alpha\beta$ T cells and B cells removed from hematopoietic stem cell transplants suggests their use as an alternative cell source for advanced manipulation and adoptive immunotherapy. *Front Immunol*. 2017 Mar 23;8:332

16. Quintarelli C, Locatelli F, Caruana I, De Angelis B. Overcoming Challenges in CAR T-cell Product CGMP Release. *Mol Ther*. 2016 May;24(5):845-6

17. Montano G, Vidovic K, Palladino C, Cesaro E, Sodaro G, Quintarelli C, De Angelis B, Errichiello S, Pane F, Izzo P, Grosso M, Gullberg U, Costanzo P. WT1-mediated repression of the proapoptotic transcription factor ZNF224 is triggered by the BCR-ABL oncogene. *Oncotarget*. 2015 Sep 29;6(29):28223-37

18. Kaeda J, Ringel F, Oberender C, Mills K, Quintarelli C, Pane F, Koschmieder S, Slany R, Schwarzer R, Saglio G, Hemmati P, van Lessen A, Amini L, Greese M, Vagge E, Burmeister T, Serra A, Carson A, Schwarz M, Westermann J, Jundt F, Dörken B, le Coutre P. Upregulated MSI2 is associated with more aggressive leukemia. *Leuk Lymphoma*. 2014 Nov 3;1:28

19. Picardi M, Pugliese N, Cirillo M, Zeppa P, Cozzolino I, Ciancia G, Pettinato G, Salvatore C, Quintarelli C, Pane F. Advanced stage Hodgkin Lymphoma: US/Chest Radiography for Detection of Relapse in Patients in First Complete Remission: A Randomized Trial of Routine Surveillance Imaging Procedures. *Radiology*. 2014 Apr 6;132154

20. Quintarelli C, De Angelis B, Errichiello S, Caruso S, Esposito N, Colavita I, Raia M, Pagliuca S, Pugliese N, Risitano Am, Picardi M, Luciano L, Saglio G, Martinelli G, Pane F. Selective strong synergism of Ruxolitinib and second generation tyrosine kinase inhibitors to overcome bone marrow stroma related drug resistance in chronic myelogenous leukemia. *Leuk Res*. 2014 Feb;38(2):236-42. doi: 10.1016/j.leukres.2013.11.006

21. Colavita I, Esposito N, Quintarelli C, Nigro E, Pane F, Ruoppolo M, Salvatore F. Identification of Annexin A1 interacting proteins in chronic myeloid leukemia KCL22 cells. *Proteomics*. 2013 Jun 10. doi: 10.1002/pmic.201200444

22. Esposito N, Colavita I, Quintarelli C, Sica AR, Peluso AL, Luciano L, Picardi M, Del Vecchio L, Buonomo T, Hughes TP, White D, Radich JP, Russo D, Branford S, Saglio G, Melo JV, Martinelli R, Ruoppolo M, Kalebic T, Martinelli G, Pane F. SHP1 expression accounts for resistance to imatinib treatment in Philadelphia chromosome positive cells derived from patients with chronic myeloid leukemia. *Blood*. 2011 Sep 29;118(13):3634-44

23. Quintarelli C, Dotti G, Hasan ST, De Angelis B, Hoyos V, Errichiello S, Mims M, Luciano L, Shafer J, Leen AM, Heslop HE, Rooney CM, Pane F, Brenner MK, Savoldo B. High avidity cytotoxic T lymphocytes specific for a new preferentially expressed antigen of melanoma (PRAME)-derived peptide can target leukemic and leukemic precursor cells. *Blood*. 2011 Mar 24;117(12):3353-62

24. Quintarelli C, Savoldo B, Dotti G. Gene therapy to improve function of T cells for adoptive immunotherapy. *Methods Mol Biol*. 2010;651:119-30

25. Hoyos V, Savoldo B, Quintarelli C, Mahendravada A, Zhang M, Vera J, Heslop HE, Rooney CM, Brenner MK, Dotti G. Engineering CD19-specific T lymphocytes with interleukin-15 and a suicide gene to enhance their anti-lymphoma/leukemia effects and safety. *Leukemia*. 2010 Jun;24(6):1160-70

26. De Angelis B, Dotti G, Quintarelli C, Huye LE, Zhang L, Zhang M, Pane F, Heslop HE, Brenner MK, Rooney CM, Savoldo B. Generation of Epstein-Barr virus specific cytotoxic T lymphocytes resistant to the immunosuppressive drug tacrolimus (FK506). *Blood*. 2009 Nov 26;114(23):4784-91. Epub 2009 Sep 16

27. Vera JF, Hoyos V, Savoldo B, Quintarelli C, Giordano Attianese G, Leen AM, Liu H, Foster AE, Heslop HE, Rooney CM, Brenner MK and Dotti G. Genetic manipulation of tumor-specific cytotoxic T lymphocytes to restore responsiveness to IL-7. *Mol Ther*. 2009 May;17(5):880-8

28. Quintarelli C, Dotti G, De Angelis B, Hoyos V, Mims M, Luciano L, Heslop H, Rooney CM, Pane F and Savoldo B. Cytotoxic T lymphocytes directed to the Preferentially Expressed Antigen of Melanoma (PRAME) target chronic myeloid leukemia. *Blood*. 2008 Sep 1;112(5):1876-85

29. Quintarelli C, Vera JF, Barbara Savoldo, Greta M. P. Giordano Attianese, Martin Pule, Aaron E. Foster, Helen E. Heslop, Cliona M. Rooney, Malcolm K. Brenner, and Gianpietro Dotti. Co-expression of cytokine and suicide genes to enhance the activity and safety of tumor-specific cytotoxic T lymphocytes. *Blood*, 15 October 2007, Vol. 110, No. 8, pp. 2793-2802

30. Pane F, Cimino G, Izzo B, Camera A, Vitale A, Quintarelli C, Picardi M, Specchia G, Mancini M, Cuneo A, Mecucci C, Martinelli G, Saglio G, Rotoli B, Mandelli F, Salvatore F, Foà R. Significant reduction of the hybrid BCR/ABL transcripts after induction and consolidation therapy is a powerful predictor of treatment response in adult Philadelphia positive acute lymphoblastic leukemia. *Leukemia*, 2005 Apr;19(4):628-31

31. Picardi F, Pane F, Quintarelli C, De Renzo A, Del Giudice A, de Divitiis B, Persico M, Ciancia R, Salvatore F, Rotoli B. Hepatitis B virus reactivation after fludarabine-based regimens for indolent non-Hodgkin's lymphomas: high prevalence of acquired viral genomic mutations. *Haematologica*. 2003 Nov;88(11):1296-303

32. Pane F, Intriери M, Izzo B, Quintarelli C, Vitale D, Migliorati R, Sebastio L, Salvatore F. A novel MLL/AF4 fusion gene lacking the AF4 transactivating domain in infant

acute lymphoblastic leukemia. Blood. 2002 Dec 1;100(12):4247_8. 33. Pane F, Intrieri M, Quintarelli C, Izzo B, Muccioli GC, Salvatore F. BCR/ABL genes and leukemic phenotype: from molecular mechanisms to clinical correlations. Oncogene. 2002 Dec 9;21(56):8652_67.

Projects

Patent Applications: 1) Title: THERAPEUTIC PREPARATIONS OF GAMMA_DELTA T CELLS AND NATURAL KILLER CELLS AND METHODS FOR MANUFACTURE AND USE (23/07/2019. U. S. Patent Application No. 16/557,316) 2) Title: CAR_CD30 T CELLS FOR TREATMENT OF CD30+ TUMORS (13/03/2018 Application N° 102018000003464) 3) Title: CAR_CD123 vector and uses thereof (25/07/2019. Application N° 19188360.2_1116; PCT 143735) Participation to the following peer_reviewed active grants: 1. Title: Accelerating Development and Improving Access to CAR and TCR_engineered T cell therapy (T2Evolve). Granted by H2020 IMI2_2019_18_06. (545,600 E). 2. Title: Immuno. Granted by Italian Regional Grant LazioInnova 2019. 12/06/2020 (96,585 E) 3. Title: CARSA. Granted by Italian Regional Grant LazioInnova 2019. 12/06/2020 (152.640 E) 4. Title: GEMMA. Granted by Italian Regional Grant LazioInnova 2019. 12/06/2020 (140,400 E) 5. Title: Humad. Granted by Italian Regional Grant LazioInnova 2019. 12/06/2020 (73,040 E) 6. Title: Trazimab. Granted by Italian Regional Grant LazioInnova 2019. 12/06/2020 (122,400 E) 7. Title: EureCart (EUropean Endeavour for Chimeric Antigen Receptor). Granted by H2020. 01/01/2017 (488,431 E) 8. Title: First_in_human Italian Phase I_II Trial based on adoptive Chimeric Antigen receptor (CAR)_T cells specific for GD2 antigen in patients with high_risk neuroblastoma. 15_12_2018. Granted by Italian Health Ministry (446,900 E) 9. Title: Chimeric antigen receptor_redirected T cells targeting CD19 antigen: first_in_human Italian trial for children with chemotherapy_refractory Acute Lymphoblastic Leukemia. 01/07/2017. Granted by Italian Health Ministry. 2014 (446,900 E) 10. Title: Immunity in Cancer Spreading and Metastasis (ISM). 1_07_2018. Granted by Italian Association for Research on Cancer (AIRC). 01/07/2018 (1,483,250 E) 11. Title: Targeting different antigens for reducing the risk of tumor escape in CAR T_cell therapy of acute lymphoblastic leukemia. 02/01/2018. Granted by Italian Association for Research on Cancer (AIRC). (1,346,730 E) 12. Title: Innovative CAR Therapy Platforms (INCAR). 01/09/2018. Granted by Accelerated Award UK. (£4,456,406) 13. Title: First_in_human Italian Phase I_II Trial based on adoptive Chimeric Antigen receptor (CAR)_T cells specific for GD2 antigen in patients with high_risk neuroblastoma (HR NB). Granted by Italian Drug Agency – AIFA. (500,000 E). 14. Title: CAR T Italian program. Research project on CAR T cells for hematological malignancies and solid tumors. Oncology Italian network. Granted by Italian Health Ministry. (2,300,000 E).

Memberships

From 2020_ member of AIEOP (Italian Association of paediatric haematology and Oncology) From 2010_ member of Italian Society of haematology From 2012_ member of Italian Experimental Society of haematology

Other Relevant Information

Awards 2020_ First Italian ATMP Award Rome October 2020 2019_ Pavoncella award Sabaudia 15 giugno 2019 2013_Travel award, European Haematology Association Meeting 2013, Stockholm, Sweden _ June 2013 2012_Travel award, European LeukemiaNet Frontiers Meeting 2012, Istanbul, Turkey November 2012 2011_ First Young Researcher: "Emma Sorace" Award XX Edition, Naples, Italy April 11, 2011 2008_PhD teaching award. Center for Cell and Gene Therapy retreat, Galveston, USA November 5_7, 2008. 2007_PhD teaching award. Center for Cell and Gene Therapy retreat, Galveston, USA November 8_10, 2007. 2007_Travel Award, 49nd annual meeting of the American Society of Hematology. Atlanta, December 8_11, 2007. Preferentially Expressed Antigen of Melanoma (PRAME)_Specific Cytotoxic T_Lymphocytes (CTLs) and Transgenic T Cells to Target Chronic Myelogenous Leukemia (CML)". 2006_PhD teaching award. Center for Cell and Gene Therapy retreat, Galveston, USA November 16_17, 2006. 2006_Travel award, 48nd annual meeting of the American Society of Hematology. Orlando, December 9_13, 2006. Transgenic expression of inducible caspase_9 suicide gene for in vivo elimination of antigen specific T cells (CTLs) engineered to produce cytokines.