

Valentina Capo, PhD

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Senior post-doctoral researcher IMMUNOLOGY – GENE THERAPY

Experienced senior post-doctoral fellow with expertise in development of lentiviral vector gene therapy for rare genetic immunodeficiencies and bone diseases. Skilled in independent project development, student training and research article writing. Strong ability to organize the activities and to collaborate with internal and external colleagues. Problem-solving, focused, hard worker.

CORE COMPETENCIES

Molecular and cellular biology ♦ Flow cytometry ♦ Immunofluorescence ♦ Murine models ♦ Scientific graphing, statistic and flow cytometry softwares

PROFESSIONAL EXPERIENCES

RESEARCHER **2020 – Current**
National Research Council (CNR) Institute for Genetic and Biomedical Research (IRGB), Milan Unit, Italy

POST-DOCTORAL FELLOW **2014 – Current**
San Raffaele Telethon Institute For Gene Therapy (SR-TIGET), Milan, Italy

- ♦ Develop novel approaches for the lentiviral vector gene therapy of Omenn syndrome and of infantile malignant osteopetrosis with GLP-like standards
- ♦ Training of PhD students
- ♦ Participating in project writing for funding
- ♦ Analyze and interpret data to be presented in research articles, reports, oral communications or poster presentations

VISITING PhD STUDENT **2013**
University College of London, London, UK

- ♦ Acquired technical expertise in performing inflammation studies in animal models of X-linked chronic granulomatous disease
- ♦ Collaborated with international partners of EU grants

PHD STUDENT **2010 – 2014**
University of Rome “Tor Vergata”, Rome, Italy

- ♦ Developed regulated lentiviral vectors for the hematopoietic stem cell gene therapy of X-linked Chronic Granulomatous Disease
- ♦ Acquired expertise in basic and advanced research protocols
- ♦ Analyzed and interpreted data to write the final thesis and research articles

INTERN

2008

National Committee for Biosecurity, Biotechnologies and Life Sciences, Presidency of the Council of Ministers, Rome, Italy

- ◆ Support to the working groups for organization issues
- ◆ Collaborate to the drafting of official documents.

HONORS and AWARDS

European Calcified Tissue Society (ECTS) fellowship (2019)

Travel grants for international meetings

"Sebastiano e Rita Raeli" award for distinguished students, University of Rome Tor Vergata, Rome, Italy (2010)

EDUCATION

Professional qualification as Biologist, University of Rome Tor Vergata, Rome, Italy (2010)

Master Degree in Biology and Human Evolution, University of Rome Tor Vergata, Italy (2010)

Summer student, Karolinska Institutet, Stockholm, Sweden (2006)

Bachelor Degree in Human Biology, University of Rome Tor Vergata, Rome, Italy (2007)

SPOKEN LANGUAGES

Italian, mother tongue

English, Certificate in Advanced English, Cambridge University (2005)

Spanish, European level A1

PUBLICATIONS

1. Villa A, **Capo V**, Castiello MC. Innovative cell-based Therapies and conditioning to cure RAG deficiency. Front Immunol 2020 Nov 19;11:607926. doi: 10.3389/fimmu.2020.607926. eCollection 2020. PMID: 33329604
2. **Capo V**, Penna S, Merelli I, Barcella M, Scala S, Basso-Ricci L, Draghici E, Palagano E, Zonari E, Desantis G, Uva P, Cusano R, Sergi L, Crisafulli L, Moshous D, Stepensky P, Drabko K, Kaya Z, Unal E, Gezdirici A, Menna G, Serafini M, Aiuti A, Locatelli SL, Carlo-Stella C, Schulz AS, Ficara F, Sobacchi C, Gentner B, Villa A. Expanded circulating hematopoietic stem/progenitor cells as novel cell source for the treatment of TCIRG1 osteopetrosis. Haematologica 2021 Jan 1;106(1):74-86. doi: 10.3324/haematol.2019.238261. PMID: 31949009
3. Daley SR, Koay HF, Dobbs K, Bosticardo M, Wirasinha RC, Pala F, Castagnoli R, Rowe JH, Ott de Bruin LM, Keles S, Lee YN, Somech R, Holland SM, Delmonte OM, Draper D, Maxwell S, Niemela J, Stoddard J, Rosenzweig SD, Poliani PL, **Capo V**, Villa A, Godfrey DI, Notarangelo LD. Cysteine and hydrophobic residues in CDR3 serve as distinct T-cell self-reactivity indices. J Allergy Clin Immunol. 2019 Jul;144(1):333-336. doi: 10.1016/j.jaci.2019.03.022. Epub 2019 Apr 30 PMID: 31053347

4. Penna S*, **Capo V***, Palagano E, Sobacchi C, Villa A. One Disease, Many Genes: Implications for the Treatment of Osteopetroses. *Front Endocrinol (Lausanne)*. 2019 Feb 19;10:85. doi: 10.3389/fendo.2019.00085. eCollection 2019. Review. PMID: 30837952
*these authors contributed equally to this work
5. **Capo V**, Castiello MC, Fontana E, Penna S, Bosticardo M, Draghici E, Poliani LP, Sergi Sergi L, Rigoni R, Cassani B, Zanussi M, Carrera P, Uva P, Dobbs K, Sacchetti N, Notarangelo LD, van Til NP, Wagemaker G, Villa A. Efficacy of lentiviral mediated gene therapy in an Omenn syndrome Rag2 mouse model is not hindered by inflammation and immune dysregulation. *J Allergy Clin Immunol*. 2018 Sep;142(3):928-941.e8. doi: 10.1016/j.jaci.2017.11.015. Epub 2017 Dec 11. PMID: 29241731
6. Schirolli G, Ferrari S, Conway A, Jacob A, **Capo V**, Albano L, Plati T, Castiello MC, Sanvito F, Gennery AR, Bovolenta C, Palchaudhuri R, Scadden DT, Holmes MC, Villa A, Sitia G, Lombardo A, Genovese P, Naldini L. Preclinical modeling highlights the therapeutic potential of hematopoietic stem cell gene editing for correction of SCID-X1. *Sci Transl Med*. 2017 Oct 11;9(411). pii: eaan0820. doi: 10.1126/scitranslmed.aan0820. PMID: 29021165
7. Schena F, Menale C, Caci E, Diomede L, Palagano E, Recordati C, Sandri M, Tampieri A, Bortolomai I, **Capo V**, Pastorino C, Bertoni A, Gattorno M, Martini A, Villa A, Traggiai E, Sobacchi C. Murine Rankl^{-/-} Mesenchymal Stromal Cells Display an Osteogenic Differentiation Defect Improved by a RANKL-Expressing Lentiviral Vector. *Stem Cells*. 2017 May;35(5):1365-1377. doi: 10.1002/stem.2574. Epub 2017 Mar 1. PMID: 28100034
8. Chiriaco M, Farinelli G, **Capo V**, Zonari E, Scaramuzza S, Di Matteo G, Sergi Sergi L, Migliavacca M, Hernandez RJ, Bombelli F, Giorda E, Kajaste-Rudnitski A, Trono D, Grez M, Rossi P, Finocchi A, Naldini L, Gentner B, Aiuti A. Dual-regulated Lentiviral Vector for Gene Therapy of X-linked Chronic Granulomatosis. *Mol Ther*. 2014 Aug;22(8):1472-1483. doi: 10.1038/mt.2014.87. Epub 2014 May 29. PMID: 24869932
9. Farinelli G*, **Capo V***, Scaramuzza S, Aiuti A. Lentiviral vectors for the treatment of primary immunodeficiencies. *J Inherit Metab Dis*. 2014 Jul;37(4):525-33. doi: 10.1007/s10545-014-9690-y. Epub 2014 Mar 12. Review. PMID: 24619149
*these authors contributed equally to this work
10. Salfa I, Cantarutti N, Angelino G, Di Matteo G, **Capo V**, Farinelli G, Cancrini C, Aiuti A, Palma P, Finocchi A. *Serratia marcescens* Osteomyelitis in a Newborn With Chronic Granulomatous Disease. *Pediatr Infect Dis J*. 2013 Aug;32(8):926. doi: 10.1097/INF.0b013e31828f682a. PMID: 23518820