

Marco Greppi
Curriculum Vitae

Informazioni Personali

Titoli

- 1st November 2017- 30th October 2020 Doctorate
PhD cum laude in Clinical and Experimental Immunology,
University of Genoa, Italy
“Expression, role and regulation of NK cell immune
checkpoints (PD-1, KIRs, NKG2A) in Ovarian Cancer”
- 30th October 2017: Master Degree
Laurea summa cum laude in Medical Biotechnology,
University of Genoa, Italy
“Identification and Characterization of a human NK cell
subset expressing PD-1”
- 27th August 2015: Bachelor Degree
Laurea summa cum laude in Biotechnology,
University of Genoa, Italy
“New Tumor escape mechanism capable of inhibiting
human NK cells”

Professional Experience

- 1st November 2020 to date Recipient of a FIRC-AIRC Fellowship – Fellowships for
Italy 2020
“Regulation of NK cell Immune Checkpoints’ expression in
women’s cancer patients: miRNA/siRNA-based therapeutic
approach”
- September 2019- May 2020 Invited PhD Student at Innate Pharma Inc. Marseille,
France

Scientific activity

M. Greppi is a Research Fellow at the Department of Experimental Medicine, University of Genoa, Italy. Since 2014, he has worked in the laboratory of Molecular Immunology, headed by Prof. Alessandro Moretta, under the supervision of Prof. Emanuela Marcenaro. This laboratory has always focused his activity on the analysis of human NK lymphocytes and receptors that regulate their function, both in normal conditions and in pathological conditions. From September 2019 to May 2020 he worked at Innate Pharma Inc. Marseille, France as part of his PhD to later return in Genoa and complete his PhD at the Department of Experimental Medicine, University of Genoa, Italy where he keeps working to date.

M. Greppi focused his studies on the identification of the cellular ligands expressed by tumors that are specifically recognized by the activating NK receptors and the understanding of the role of NK cells in regulating Innate and Adaptive immune responses. More recently he contributed to the characterization of new mechanisms of tumor escape to evade the immune surveillance mediated by NK cells. In this context, he took part in a study aimed at the identification of a subset of human NK cells expressing high levels of the inhibitory immune checkpoint PD-1, involved in the immunosuppression of anti-tumor NK cell function.

Publications

1. Pesce, S.*, **Greppi, M.***, Tabellini, G., Rampinelli, F., Parolini, S., Olive, D., Moretta, L., Moretta, A., & Marcenaro, E. (2017). Identification of a subset of human natural killer cells expressing high levels of programmed death 1: A phenotypic and functional characterization. *Journal of Allergy and Clinical Immunology*, 139(1), 335-346.e3. <https://doi.org/10.1016/j.jaci.2016.04.025>
2. Pesce, S.*, Squillario, M.*, **Greppi, M.***, Loiacono, F., Moretta, L., Moretta, A., Sivori, S., Castagnola, P., Barla, A., Candiani, S., & Marcenaro, E. (2018). New miRNA Signature Heralds Human NK Cell Subsets at Different Maturation Steps: Involvement of miR-146a-5p in the Regulation of KIR Expression. *Frontiers in Immunology*, 9(OCT), 2360. <https://doi.org/10.3389/fimmu.2018.02360>
3. Pesce, S., **Greppi, M.**, Grossi, F., Del Zotto, G., Moretta, L., Sivori, S., Genova, C., & Marcenaro, E. (2019). PD/1-PD-Ls Checkpoint: Insight on the Potential Role of NK Cells. *Frontiers in Immunology*, 10(AUG), 1242. <https://doi.org/10.3389/fimmu.2019.01242>
4. Pesce, S., Belgrano, V., **Greppi, M.**, Carlomagno, S., Squillario, M., Barla, A., Della Chiesa, M., Di Domenico, S., Mavilio, D., Moretta, L., Candiani, S., Sivori, S., De Cian, F., & Marcenaro, E. (2019). Different features of tumor-associated NK cells in patients with low-grade or high-grade peritoneal carcinomatosis. *Frontiers in Immunology*, 10(AUG), 1963. <https://doi.org/10.3389/fimmu.2019.01242>
5. **Greppi, M.**, Tabellini, G., Patrizi, O., Candiani, S., Decensi, A., Parolini, S., Sivori, S., Pesce, S., Paleari, L., & Marcenaro, E. (2019). Strengthening the AntiTumor NK Cell Function for the

Treatment of Ovarian Cancer. *International Journal of Molecular Sciences*, 20(4), 890. <https://doi.org/10.3390/ijms20040890>

6. Vacca, P., Pesce, S., **Greppi, M.**, Fulcheri, E., Munari, E., Olive, D., Mingari, M. C. M. C., Moretta, A., Moretta, L., & Marcenaro, E. (2019). PD-1 is expressed by and regulates human group 3 innate lymphoid cells in human decidua. *Mucosal Immunology*, 12(3), 624–631. <https://doi.org/10.1038/s41385-019-0141-9>
7. Minetto, P., Guolo, F., Pesce, S., **Greppi, M.**, Obino, V., Ferretti, E., Sivori, S., Genova, C., Lemoli, R. M., & Marcenaro, E. (2019). Harnessing NK Cells for Cancer Treatment. *Frontiers in Immunology*, 10, 2836. <https://doi.org/10.3389/fimmu.2019.02836>
8. Pesce, S.*, **Greppi, M.***, Ferretti, E., Obino, V., Carlomagno, S., Rutigliani, M., Thoren, F. B., Sivori, S., Castagnola, P., Candiani, S., & Marcenaro, E. (2020). miRNAs in NK Cell-Based Immune Responses and Cancer Immunotherapy. In *Frontiers in Cell and Developmental Biology* (Vol. 8, p. 119). Frontiers Media S.A. <https://doi.org/10.3389/fcell.2020.00119>
9. Pesce, S., TrabANELLI, S., Di Vito, C., **Greppi, M.**, Obino, V., Guolo, F., Minetto, P., Bozzo, M., Calvi, M., Zaghi, E., Candiani, S., Lemoli, R. M., Jandus, C., Mavilio, D., & Marcenaro, E. (2020). Cancer Immunotherapy by Blocking Immune Checkpoints on Innate Lymphocytes. *Cancers*, 12(12), 3504. <https://doi.org/10.3390/cancers12123504>
10. Ferretti, E., Carlomagno, S., Pesce, S., Muccio, L., Obino, V., **Greppi, M.**, Solari, A., Setti, C., Marcenaro, E., Della Chiesa, M., & Sivori, S. (2020). Role of the Main Non HLA-Specific Activating NK Receptors in Pancreatic, Colorectal and Gastric Tumors Surveillance. *Cancers*, 12(12), 3705. <https://doi.org/10.3390/cancers12123705>
11. C zar, B.*, **Greppi, M.***, Carpentier, S., Narni-Mancinelli, E., Chiossone, L., & Vivier, E. (2021). Tumor-infiltrating natural killer cells. In *Cancer Discovery* (Vol. 11, Issue 1, pp. 34–44). American Association for Cancer Research Inc. <https://doi.org/10.1158/2159-8290.CD-20-0655>
12. Paleari, L., Pesce, S., Rutigliani, M., **Greppi, M.**, Obino, V., Gorlero, F., Vellone, V. G., & Marcenaro, E. (2021). New Insights into Endometrial Cancer. *Cancers 2021, Vol. 13, Page 1496*, 13(7), 1496. <https://doi.org/10.3390/CANCERS13071496>
13. Guolo, F., Minetto, P., Pesce, S., Ballerini, F., Clavio, M., Cea, M., Frello, M., Garibotto, M., **Greppi, M.**, Bozzo, M., Miglino, M., Passannante, M., Marcolin, R., Tedone, E., Colombo, N., Mangerini, R., Bo, A., Ruzzenenti, M. R., Carlier, P., ... Lemoli, R. M. (2021). Post-Transplant Nivolumab Plus Unselected Autologous Lymphocytes in Refractory Hodgkin Lymphoma: A Feasible and Promising Salvage Therapy Associated With Expansion and Maturation of NK Cells. *Frontiers in Immunology*, 12, 1. <https://doi.org/10.3389/FIMMU.2021.753890/FULL>
14. Rutigliani, M., Bozzo, M., Barberis, A, Greppi, M, Anelli, E, Castellaro, L., Bonsignore, A., Azzinnaro, A., Pesce S., Filauro, M., Rollandi, G.A., Castagnola, P., Candiani, S., & Marcenaro, E.; Case Report, *Front. Immunol. - Cancer Immunity and Immunotherapy* – In Print

*Co-First Authors

Meeting attendance / Meeting abstract

Pesce S, **Greppi M**, Tabellini G, Rampinelli F, Parolini S, Olive D, Moretta L, Moretta A, Marcenaro E. “Identification of a Subset of Human NK Cells Expressing High Levels of PD-1 Receptor: A Phenotypic and Functional Characterization”

16th Annual Meeting of the Society of Natural Immunity, Taormina, 2-5 ottobre, 2016

Pesce S, **Greppi M**, Tabellini G, Rampinelli F, Parolini S, Olive D, Moretta L, Moretta A, Marcenaro E. “Identification of a Subset of Human NK Cells Expressing High Levels of PD-1 Receptor: A Phenotypic and Functional Characterization”

XI national Congress of the Italian Society of Immunology, Clinical Immunology and Allergology, Bari, May 28-31 2017

Pesce S, **Greppi M**, Tabellini G, Rampinelli F, Parolini S, Olive D, Moretta L, Moretta A, Marcenaro E. “Identification of a Subset of Human NK Cells Expressing High Levels of PD-1 Receptor: A Phenotypic and Functional Characterization”

Italian Journal of Anatomy and Embryology

70° Meeting of the Italian Society of anatomy and Histology, Roma, September 15-17, 2016

Pesce S, **Greppi M**, Tabellini G, Rampinelli F, Parolini S, Olive D, Moretta L, Moretta A, Marcenaro E: “The PD-1 immune checkpoint on human NK cells in normal and pathological condition”

15th International Conference on Innate Immunity in Memory of Alessandro Moretta-Aegean Conferences Series, Vol. 118, CRETE June 18-23, 2018

Pesce S, Squillario M, **Greppi M**, Loiacono F, Moretta L, Moretta A, Sivori S, Castagnola P, Barla A, Candiani S, Marcenaro E. *New miRNA Signature Heralds Human NK Cell Subsets at Different Maturation Steps: Involvement of miR-146a-5p in the Regulation of KIR Expression*. KIR WORKSHOP 2018, Camogli October 25-27, 2018

Research projects/ Funding obtained in the context of national and international competitive programs

Fondazione AIRC per la Ricerca sul Cancro (AIRC)-Investigator Grant 2021 (Id. 26037).: Title: “Understanding the role of NK cells in checkpoint blockade immunotherapy for treatment of breast and gynecologic cancers” (co-investigator)

Euro 152.000/year (36+24 months)

Associazione Italiana per la Ricerca sul Cancro (AIRC)-Investigator Grant 2017 (Id. 20312).: Title: “Checkpoint inhibitors regulate anti-tumor responses by human NK cells” (co-investigator)

Euro 190.000/year (36months)

Associazione Italiana per la Ricerca sul Cancro (AIRC)-Special Program Metastatic disease: the key unmet need in oncology 5 per mille 2018 (Id. 21147). Title: “Immunity in Cancer Spreading and Metastasis (ISM)” (co-investigator)

Euro 217.000/year (84 months) (1.516.500)

Main research lines and current national and international collaborations

- 1) Expression and function of chemokine receptors on human NK cells
- 2) Role of NK cells in patients with ovarian cancer (collaboration with Prof. Silvia Parolini, University of Brescia, Prof. Eric Vivier, Marseille, France)
- 3) Phenotypic and functional analysis of PD-1 receptor on human NK cells (collaboration with Prof Daniel Olive, Marseille, France)
- 4) Analysis of inhibitory checkpoints in NK cells developing after unrelated umbilical cord blood transplantation (UCBT) or haploidentical hematopoietic stem cell transplantation (haplo-HSCT) in leukemic pediatric patients (collaboration with Prof Franco Locatelli, and Prof Lorenzo Moretta, Ospedale Pediatrico Bambino Gesù, Rome, Italy)
- 5) Analysis of miRNA expression in CD56bright and CD56dull NK cell subsets (collaboration with Prof. Simona Candiani, University of Genoa)
- 6) Analysis of PD-1 expression on ILC3 subsets in decidua tissue and in peripheral blood (collaboration with Dr. Paola Vacca and Prof. Lorenzo Moretta, Ospedale Pediatrico Bambino Gesù, Rom, Italy)
- 7) Analysis of the relationship between different adaptive NK cell subsets, including PD-1 expressing NK cells (collaboration with Prof. Yenan Bryceson, Karolinska Institutet, Sweden)
- 8) (collaboration with Prof. Domenico Mavilio, Humanitas Research Hospital, Prof. Camilla Jandus, University of Geneve, Switzerland, Prof. Daniel Olive, University of Aix-Marseille, France, Michael Caliguri)

Achievement of prizes and awards for scientific activity

Highly cited Publication: As of July 2017/today the publication: "Identification of a subset of human natural killer cells expressing high levels of programmed death 1: A phenotypic and functional characterization", JACI 2017 received enough citations to place it in the top 1% of the academic field of immunology based on a highly cited threshold for the field and publication year

Link ISI:

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Genoa, January 31, 2022

Firma:

