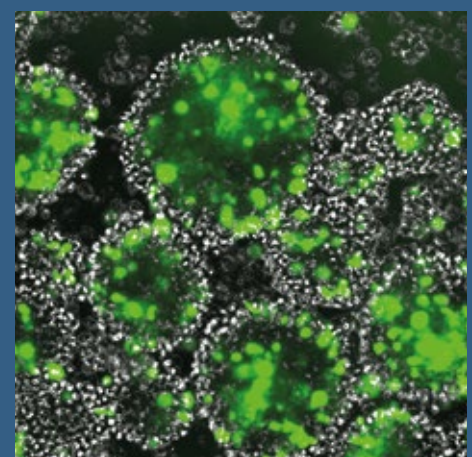
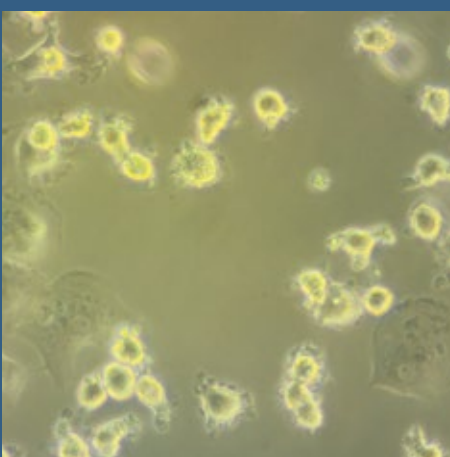
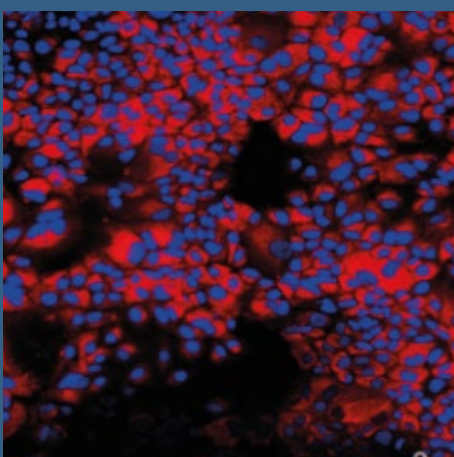
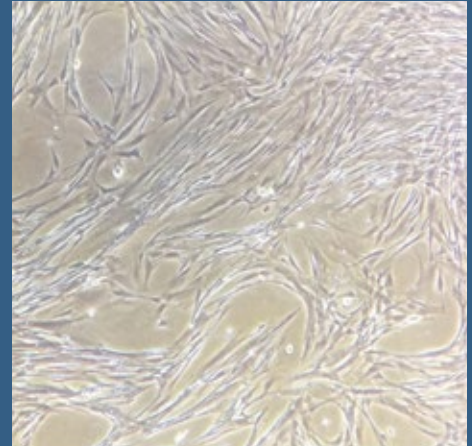
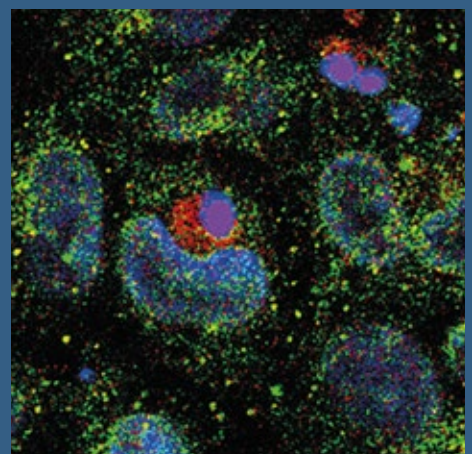
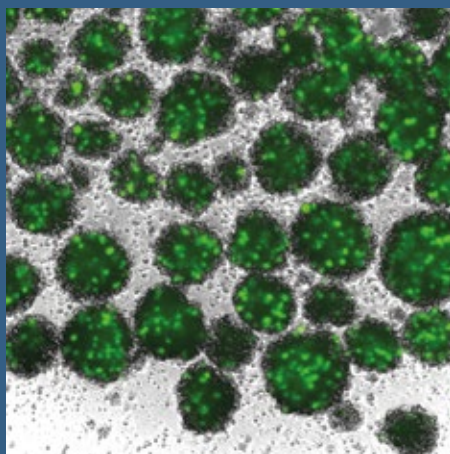
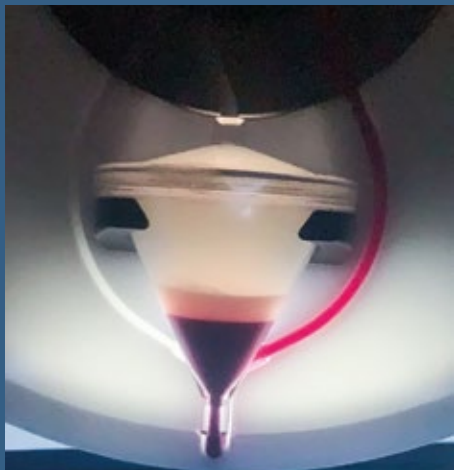


# Experimental Immunotherapy Group @ Ri.MED

Our research is focused on the development of cell-mediated therapies aiming at increasing the life expectancy of patients in solid organ transplantation and cancer.





## AIMS

- Treatment of patients affected by liver cancer with innovative CAR-NK cells engineered to have enhanced specificity to hepatocellular carcinoma
- Early weaning off immunosuppressive therapy of Solid Organ Recipient using Tolerogenic Dendritic Cells
- Development of off-the-shelf cellular products



## FOCUS

- Engineering of CAR-NK cells for the treatment of liver cancer
- Increasing the anti-tumoral function of NK cells by ex vivo activation with specific cytokines
- Understanding the role of dendritic cells in tolerance induction
- Production of Tolerogenic Dendritic Cells
- Preclinical studies and in vivo proof-of-concept of safety and efficacy of cell-mediated therapies
- Development of GMP-compliant protocols for large scale cell production for clinical applications



## EXPERTISE AND RESOURCES

- Animal house for the execution of preclinical studies, equipped with a *In vivo* Imaging System (IVIS) Spectrum which allows tracing tumor growth in live lab animals
- Cell factory (c/o IRCCS ISMETT) equipped with instruments for closed-circuit isolation, engineering and expansion of cellular products in compliance with GMP protocols
- Certified personnel (QA, QP, QC) for the production and release of clinical-grade cell batches
- Affiliation with the Transplantation Institute ISMETT, where clinical trials will be assessed



## OUTCOME

- Yearly production of scientific papers
- A number of two submitted patents in the intellectual property portfolio
- Yearly funding according to a scientific collaboration by and between UPMC, Department of Research of IRCCS-ISMETT and the University of Pittsburgh, McGowan Institute of Regenerative Medicine (MIRM).



## COLLABORATIONS

- The Mediterranean Institute for Transplantation and Advanced Specialized Therapies (ISMETT - IRCCS), ITA
- Thomas E. Starzl Transplantation Institute, University of Pittsburgh School of Medicine, USA
- University Of Pittsburgh Medical Center (UPMC)
- The University of Pittsburgh, McGowan Institute of Regenerative Medicine (MIRM), USA
- Experimental Zooprophyllactic Institutes of Sicily (IZS Sicily), ITA
- National Research Council (CNR), ITA



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