

CV (summary)

Professor Prosper graduated from the University of Navarra in 1989 and after his residency and PhD (1994), he completed his fellowship and postdoctoral training at the University of Minnesota. Relocated to the Clinica Universidad de Navarra in 2001, he was responsible for the development of the Cell Therapy program, where he became head, becoming the Head of the Hematology Department in 2003. In 2012, Professor Prosper was appointed as the Director of the programs of Hematology-Oncology and Regenerative Medicine at CIMA Universidad de Navarra.



Professor Prosper's principal research interest and key discoveries have been focused on several specific areas:

- Understanding epigenetic and genetic changes present in patients with hematological malignancies, mainly multiple myeloma and leukemia-MDS. We have identified changes in gene methylation, expression of microRNAs and chromatin modifications that are associated with prognosis and treatment response.
- Identification of new epigenetic targets and design of new molecules: based on the analysis of epigenetic and epigenomic changes in patients with hematological neoplasms we have validated new targets and signal transduction pathways involved in the pathogenesis of the disease and generated new chemical compounds that target epigenetic enzymes.
- Regenerative medicine: our group has been working on the potential of stem cells and iPS cells as therapeutics for a variety of applications including cardiac regeneration and orthopedic diseases, along with the use of tissue engineering with the combination of stem cells and iPS cells.
- Clinical trials in patients with multiple myeloma and leukemia-MDS

Professor Prosper has published more than 400 peer review articles in top journals including New England Journal of Medicine, Nature Genetics, Blood, Journal of Clinical Oncology, Journal of Clinical Investigation, Leukemia, Genome Research or Oncogene among others with an H-factor of 76 and over 19.700 citations and has given more than 300 lectures. His laboratory is funded through national and international grants including competitive programs such as, MMRF, IMF, European Union (FP6, FP7 and H2020 programs), Spanish Ministry of Health and Ministry of Science among others; which sum up more than 50 grants. He has received multiple awards and prizes and has mentored over 32 PhD students and postdocs during his career.

Advanced therapy with Mesenchymal Stromal Cells for inflammatory diseases: is there a role for MSC in COVID-19

The use of Multipotent mesenchymal stromal cells (MSCs) have been extensively investigated as an advanced therapy medicinal product, with promising results in inflammatory and degenerative diseases. MSC from different sources have been investigated as treatment for graft-versus-host disease (GvHD), multiple sclerosis (MS), Crohn's disease (CD), amyotrophic lateral sclerosis (ALS), myocardial infarction (MI), and acute respiratory distress syndrome (ARDS), among others. Their therapeutic effect depends not only on cell-cell contact but also may include a so-called hit-and-run mechanism. However, with more than 300 completed clinical trials using MSCs as of 2020 and despite a wealth of information available to better understand what dictates their success and failure when investigated in humans there is only one product with marketing authorization within the EU. I will review some of the bases for the use of MSC in different diseases, providing results based on our experience and will discuss the rationale for the use of MSC in patients with severe COVID-19 pneumonia. Initial results from the first experience with adipose derived MSC in Europe will also be described.