



POSITION

Project Title/ Job position title

Translational Research in Pediatric Oncology, Hematopoietic Transplantation & Cell Therapy_CTCs / Pre-doctoral position

Area of Knowledge

Life Science Panel

Medicine, Public Health, Sports Science, Nutrition, Clinical Psychology, Healthcare Management

Research Project/Research Group Description

Research Group:

Our group is named "Translational Research in Childhood Cancer, Hematopoietic Transplantation and Cell Therapy" and is led by Dr. Antonio Pérez-Martínez, at the Research Institute of the University Hospital La Paz (IdiPAZ). It is a multidisciplinary team, composed of expert genetists, pediatric hemato-oncologists and cell therapy researchers. Currently, the team is leading five clinical trials of immunotherapy with activated and expanded NK cells in patients with relapsed or refractory acute leukemia, lymphoma, multiple myeloma and sarcoma.

Five of the team members belong to the Pediatric Hemato-Oncology Service of the University Hospital La Paz (HULP), a national reference center for the diagnosis and treatment of pediatric malignancies in Spain. We are a young and motivated team. Our research areas include development of new cellular therapy approaches for pediatric cancer, advanced molecular diagnosis and hematopoietic stem cells transplantation. Our goal is to implement innovative immunotherapeutic techniques for the treatment of unfavorable-prognosis childhood cancers.

Research Project:

The fellow would join a project involving the detection of circulating tumor cells (CTCs) in sarcoma pediatric patients. CTCs are rare cancer cells released from tumors into the bloodstream that are thought to have a role in cancer metastasis. The presence of CTCs has been associated with worse prognosis in several major cancer types. Nonetheless, their role in sarcoma development still has to be determined. Enumeration and characterization of these cells in sarcoma pediatric patients may help to diagnose and predict recurrence or metastasis as well as improve the overall management of these patients.

Job position description

The position combines a cutting-edge research laboratory, where the student would learn cell culture and molecular biology techniques together with a direct contact with its clinical application.



Under the supervision of postdoctoral researcher María Vela, the student would learn sarcoma circulating tumor cells detection tests in the laboratory our team has in the the Research Institute of the University Hospital La Paz (IdiPAZ-HULP). These CTCs will be characterized at different levels. Their immunophenotype (by flow cytometry) and migration and invasion capacity will be assessed; oncogene mutations and gene expression analysis will be performed; and their sensitivity to therapy will be determined. The student would learn DNA/RNA extraction techniques, Sanger sequencing, real-time PCR and mass sequencing or NGS (Next Generation Sequencing), under the supervision of postdoctoral researcher Adela Escudero, in our laboratory at the HULP Institute of Medical and Molecular Genetics (INGEMM).

In parallel, the student would attend the seminars of our research group. There, the advances of the laboratory research are discussed along with the progress of the clinical trials that are being developed in the HULP. In these trials, the diagnostic and cellular therapy techniques developed in the laboratory are applied in the clinics. In addition, the student would attend the weekly scientific seminars organized by IdiPAZ and the sarcoma clinical committee seminars organized by HULP.

The position requires a motivated fellow with high organizational skills and strong teamwork capacity. All candidates must be fluent in English. Knowledge of Spanish and previous experience in research laboratories will be positively valued.

GROUP LEADER

Title: MD, PhD, Professor

Full name: Antonio Pérez Martínez

Email: aperezmartinez@salud.madrid.org

Research project/Research group website:

<http://www.idipaz.es/PaginaDinamica.aspx?IdPag=95&Lang=EN>