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Bruno Paiva is Director of the Flow Cytometry Platform and Director of the Monoclonal Gammopathies Research Laboratory, both at the centre for applied medical research (CIMA) University of Navarra, Pamplona, Spain, where he is also a research fellow of the Department of Haematology. He gained his Doctor of Pharmacy degree in in 2007 from the University of Coimbra, Portugal, and his PhD at the Medical School of the University of Salamanca, Spain.

Dr Paiva's main area of expertise is the multidimensional flow cytometry analysis of haematological malignancies. His research focuses on immunogenomics to improve differential diagnosis, risk stratification, and monitoring of patients with monoclonal gammopathies and myeloid malignancies. Dr Paiva's flow cytometry core is the referral laboratory for numerous Hospitals and has been the core of more than 30 national and international clinical trials in multiple myeloma and acute myeloid leukaemia.

Throughout his 17-year-long research career, Dr Paiva has authored or co-authored more than 200 publications, including more than 30 publications in the most prestigious journal in the haematology sector: *Blood*. In 2015, Dr Paiva was awarded the Bart Barlogie Young Investigator Award for outstanding research developed in multiple myeloma. In 2022, Dr Paiva was awarded the Brian G.M. Durie Outstanding Achievement Award by the International Myeloma Foundation (IMF) for his contribution to improving the lives of patients with myeloma.

Single Cell multi-omics for minimally invasive assessment of Treatment efficacy in WM

Assessing treatment efficacy is mandatory in Waldenström's Macroglobulinemia (WM). However, its prognostic value is limited and its role in treatment decisions is scarce. The CR criterion in particular fails to identify patients with prolonged survival and to capture the efficacy of therapies that are improving outcomes. We hypothesize that drugs targeting tumor B cells may spare plasma cells that will continue secreting a monoclonal IgM, but are unable to drive disease progression and therefore penalize the complete remission criterion. We hypothesize that these plasma cells carry *MYD88*^{L265P}, and that these and other pre-neoplastic B cells with mutated *MYD88* may induce false-positive results if treatment efficacy is assessed according to this genetic marker. We further hypothesize that, contrary to *MYD88*^{L265P} monitoring that is applicable in patients carrying the mutation, flow cytometry has the potential to be universally used in WM, provided that its sensitivity and specificity are substantially improved. To this end, we will compare the transcriptional phenotype of clonotypic WM cells vs normal B cells and plasma cells using scRNA/BCR-seq. Candidate genes coding for intracellular and surface proteins will be validated for immunophenotyping using spectral flow cytometry towards the development of an ultra-sensitive method to monitor tumor kinetics in WM.