Nuria Martínez-Martín
nmartinez@cbm.csic.es

After completing her B.S. in Biochemistry at the University of Valencia, Nuria embarked on her research career. She gained valuable experience in Dr. Alarcon's laboratory (2007-2011) and Dr. Batista's laboratory (2011-2017) as a PhD student and postdoctoral fellow, respectively. Throughout these years, Nuria received prestigious grants including a predoctoral fellowship from the Spanish Ministry of Education (2006-2010), an EMBO long-term fellowship (2012-2014), and a Marie Curie Intra-European fellowship (2014-2016). Her research focused on understanding the immune system, resulting in significant contributions to immunology. Nuria elucidated the cooperative relationship between TCR complexes, revealing the transmission of conformational changes during TCR signaling (Martinez-Martin et al. 2009). Additionally, her work on the GTPase TC21 (RRas2) in lymphocytes provided insights into its role as a direct effector of TCR and BCR, including its involvement in TCR internalization and trogocytosis in T cells (Delgado et al. 2009; Martínez-Martín et al. 2011). Nuria also developed a novel method to quantify non-canonical autophagy in B cells, shedding light on its role in the immune response (Martinez-Martin et al. 2017).

In 2018, she was appointed as a Ramón y Cajal Investigator and began her role as a principal investigator at the CBMSO-CSIC, leading a group focused on describing the role of mitochondrial metabolism in B cells and the adaptive immune response. Her recent work has uncovered the roles of mitochondria in activated B cells during the adaptive immune response, including their function as a power supplier (Mendoza et al, 2018) and as controllers of lysosome function (Iborra-Pernichi et al, 2024). Utilizing state-of-the-art techniques, Nuria has extensively characterized the metabolic plasticity of B cells during the adaptive immune response, profiling these cells metabolically and revealing the role of mitochondria in the aging of the humoral immune response. Recently, Nuria has been awarded with a grant from La Caixa Health Research program (HR22) to unveil the role of the metabolic communication during infection.

Some of her publications are:

1. Martinez-Martin, N. et al. A switch from canonical to noncanonical autophagy shapes B cell responses. Science 355, 641–647 (2017).

2. Martínez-Riaño, A. et al. Antigen phagocytosis by B cells is required for a potent humoral response. Embo Rep 19, (2018).

3. Tsui, C. et al. Protein Kinase C-β Dictates B Cell Fate by Regulating Mitochondrial Remodeling, Metabolic Reprogramming, and Heme Biosynthesis. Immunity 48, 1144-1159.e5 (2018).

4. Mendoza, P. et al. R-Ras2 is required for germinal center formation to aid B cells during energetically demanding processes. Sci Signal 11, eaal1506 (2018).

5. Marta Iborra-Pernichi, et al Defective mitochondria remodelling in B cells leads to an aged immune response. Accepted in *Nature Communications*. (2024).