



SEMINARIO PRESENCIAL

Viernes, 11 de marzo de 2022

12:30 h. Instituto Cajal (CSIC) Madrid

DRA. MARÍA DOMERCQ

DEPARTMENT OF NEUROSCIENCE
ACHUCARRO BASQUE CENTER
Leioa, País Vasco

Role of microglia and oligodendrocytes in myelin remodeling

Abstract

Myelin determines the speed and temporal coherency of signaling, that is crucial for synchronization and high brain function. Myelin dysfunction contributes to severe motor impairment in demyelinating diseases such as multiple sclerosis. Importantly, myelin can be spontaneously repaired in a limited manner at the early phases of multiple sclerosis as well as in stroke and spinal cord injury. Boosting this intrinsic partial capacity of myelin repair constitutes a major challenge in the field. The main goal of my research is to design strategies to promote remyelination. The first objective is to understand the role of microglia in myelin repair and to identify microglia signaling pathways that could boost remyelination. The other strategy is focused on targeting oligodendrocytes to accelerate myelination and to understand its impact on axonal function and survival. I will summarize two projects in development to explore the role of microglia and oligodendrocytes in axonal and myelin function.

Affiliation and short bio

I am currently a permanent researcher at the University of Basque Country, School of medicine (Spain) and member of the Achucarro Basque Center for Neuroscience. I graduated in Pharmacy (university of Salamanca) and received my PhD degree in Neuroscience from the University of the Basque Country (Spain) in 1999. Then, I worked at the University of Milan and of Lausanne (Switzerland) under Dr. A. Volterra supervision. In 2002 I returned to Spain. First, I obtained a Ramon y Cajal fellow and latter, in 2011, I got a permanent position as researcher at the University of the Basque Country. My main scientific interest has always been glial cells. I have been working on the role of glial cells in glutamate homeostasis since my PhD. More recently, I started working on the role of purinergic signaling in glia. We discovered that ATP, like glutamate, kills oligodendrocytes, contributing to damage in animal models of multiple sclerosis and white matter ischemia. I am a member of the Society for Neuroscience of the USA, Sociedad Española de Neurociencia and Red Glial Española committee member (2018-2022). I have been awarded by the Fundación Mutua Madrileña, Fundación Alicia Koplowitz. Grant for Multiple Sclerosis award (Merck Serono) and Foundation ARSEP.