Anna Planas, IDIBAPS
Friday, July 12th, 2013, 13:00h CELLEX first floor A11

Title: Immune responses and stroke brain damage

Abstract:
Lack of oxygen and glucose supply to the brain causes rapid neuronal necrosis that releases danger signals. These signals induce innate immune responses triggering inflammation. Typical innate responses such as activation of the complement system and danger signal receptors are recognized to contribute to stroke brain damage. These signals activate resident glial cells and induce infiltration of circulating leukocytes. I will briefly present some of our work in this direction. Besides infiltration of myeloid cells, we now know that T cells also reach the brain very quickly after stroke, and several lines of evidence suggest that they can play a deleterious role. This topic has been the subject of experimental studies by our team and I will present some unpublished results on this regard. In brief, we have evidence supporting a fast T cell response that damages the brain in an innate rather than antigen-specific way. Whether brain antigen-dependent responses occur after stroke has not been demonstrated so far, but we showed that brain-derived antigens are found in lymphoid tissue of stroke patients. Overall, it is now apparent that stroke alerts the immune system and that immune responses contribute to stroke brain damage.

Related article:
I am attaching an original study and a revision of our team.

- Brain-derived antigens in lymphoid tissue of patients with acute stroke.

Biography:
Anna Planas graduated at the University of Barcelona and carried her Ph.D. on cerebral blood flow and metabolism at the MRC-Toxicology Unit in Carshalton (UK) (1984-1987). She did a postdoctoral stage at the SHFJ PET Centre (CEA) in Orsay (France) (1990-1992). She now leads the Laboratory for Cerebrovascular Research, she is Head of the Department of Brain Ischemia and Neurodegeneration at the Institute for Biomedical Research (IIBB) of the Spanish Research Council (CSIC) in Barcelona, and she is a scientist at the Institut d’Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS). One of her main interest is to underscore the contribution of inflammatory and immune responses to stroke brain damage. Dr Planas is member of the Board of Directors of International Society for Cerebral Blood Flow and Metabolism (ISCBFM), she was the local host for the Brain 2011 meeting of the ISCBFM and for the meeting of the European Molecular Imaging Society (ESMI) in 2009. She belongs to the European Stroke Network and has collaborations with European laboratories within this network. She is member of the editorial board of the scientific journals Stroke, Neuroscience, and the Journal for Cerebral Blood Flow and Metabolism.