Descripción del candidato

asamblea general cre (2 julio 2016)

Candidatura a: Secretaria

FOTO

Nombre: MARÍA DOLORES MAYÁN SANTOS

Fecha y lugar de nacimiento: 15/06/1977 en Santiago de Compostela

Trayectoria profesional: Dr. María D. Mayán earned her bachelor's degree in Pharmacy from University of Santiago de Compostela (USC) in 2000 and her Ph.D. from Complutense University of Madrid in 2006 under the supervision of Professor Jorge Bernardo Schvartzman (CIB, CSIC). Before starting the PhD, she worked for 3 years (1999-2002) in the group headed by Dr. Felix Camiña at the USC. During this time she held the Minor thesis and the DEA-research work and obtain a patent and published an article in Diabetes Care.

She carried out two post-doctoral stays in London, at the Imperial College London and Clinical Sciences Centre in the group of Professor Richard Festenstein and Professor Luis Aragon. In July 2008, she has been named Honorary Research Fellow at the Imperial College London. In March 2010, she joined the INIBIC A Coruña as a junior research group leader (Isidro Parga Pondal Programme I3) within the Division of Rheumatology headed by Dr. Francisco Blanco.

María D. Mayán is currently a research group leader (CellCOM research Group, INIBIC). The CellCOM group provides a strong clinical base for laboratory-based research by procuring tissue samples linked to clinical outcome data. For the development of their research, Dr. Mayán is the PI of a private collection of human biological samples registered in the National Registry of Biobanks of the Carlos III Healthy Institute (2015/029) which include samples of cartilage, breast, skin among others.

Since 2010, her research was focused on the study of the molecular mechanisms responsible for the articular cartilage degeneration that occurs in patients with osteoarthritis (OA). In these five years her research group has obtained novel results that represent a breakthrough discovery, demonstrating that chondrocytes in cartilage are physically connected through long cytoplasmic projections and that cell-cell communication occurs through voltage-dependent Gap Junction channels formed by connexin 43 (Cx43), which have an additional key metabolic function. The demonstration of this functional connection provide the basis for understanding homeostatic mechanisms and tissue regeneration within cartilage.

Cartilage breakdown is a hallmark of OA. Despite the great impact in terms of the numbers of publications and research groups studying OA, the primary cause of the disease has not yet been described. In osteoarthritic chondrocytes, changes in protein synthesis (anabolic/ catabolic processes) are accompanied by phenotypic changes and moderate levels of cell proliferation. Results from her group suggest that Cx43 is directly associated with dedifferentiation and chondrocyte proliferation. Overexpression of Cx43 and/or loss of localisation would affect the structural and functional integrity of chondrocytes and may help explain the matrix degeneration observed in OA patients. Over the past few years, work from her laboratory has led to several exciting discoveries suggesting that Cx43 plays active roles in different biological processes such as chondrocyte cell proliferation, metabolism and cell communication. All of these linked processes are essential for the maintenance of normal chondrocyte phenotype and cartilage matrix synthesis during normal and pathological conditions that require cartilage matrix regeneration or repair. The results obtained by her research group encouraged them to develop different projects to study the functions of connexins in normal cartilage and cartilage obtained from OA patients to identify alterations that could explain the degeneration of the extracellular matrix observed in patients with osteoarthritis. Following the overall approach and methodology design for these studies they expect to find an effective therapeutic strategies for OA treatment.

Their results were very well received at several international conferences (selected for oral

presentation or keynote speaker). Dr. Mayán group 's work was awarded the Price on the category of Arthritis and on the category of Basic Science giving annually to members of the Spanish Society of Rheumatology (SER) who are researchers of meritorious scientific papers, on the basis of their contribution to the understanding of the cellular and molecular mechanisms involved in the development of arthritis and the discovery of novel therapies (Arthritis category) and to the understanding of the joint physiology and pathophysiology of rheumatic diseases (Basic Science category).

María D. Mayán has obtained 10 predoctoral fellowships as PI. She organized 11 workshops and conferences with international participation, she got 4 research grants as PI from Sociedad Española de Reumatología (SER), from Instituto de Salud Carlos III (ISCIII: PI13/00591), from FECYT (Plataforma Precipita. Ministerio de Economia y Competitividad) and from Xunta de Galicia (Co-IP). Her group published several reports, have 5 manuscripts in preparation and 2 patents on course (under preparation). They got a US patent approval for the treatment of arthritis in collaboration with Gary S. Goldberg. She supervised 2 Doctoral Thesis (international doctorate mention) and she is supervising 3 PhD students, 1 postdoctoral fellow and 1 master student.

For press and divulgation of the results obtained by her group see http://mayan-lab.com/News.html. She is currently involved in a collaborative project that was presented to the Framework Programme Horizon2020 (COST Action and MSCA-ITN program).

Programa: Participar de manera activa en las actividades de la Asociación. Promover la visibilidad de la misma y contribuir al desarrollo y difusión de actividades de formación y divulgación científica.