



Press Release

Date 24 November 2020

Sonia Laín, an international leader in cancer research, is currently in the CNIO as part of the Fundación Jesús Serra Visiting Researchers programme

Thanks to the initiative, the prestigious Swedish researcher is interacting with several CNIO groups that have enabled her to deepen in her own projects dedicated to the development of anti-Cancer drugs, as well as starting new lines of study devoted to cancers with KRAS mutation and the effects of certain inhibitors on metabolism.

The Jesús Serra Foundation, of Grupo Catalana Occidente, and the National Centre for Cancer Research (CNIO) have held the official presentation of the Researcher Sonia Laín, professor of molecular cancer pharmacology at the Karolinska Institutet (Sweden), as beneficiary of the latest edition of the Visiting Researchers programme of the Fundación Jesús Serra. Due to the health situation, the presentation of the scientist and the progress in research during her stay has been in digital format.

The aim of the Fundación Jesús Serra programme is to finance the stay of a researcher in Spain who has been working at a prestigious international centre for the last five years. Thus, once a year, the CNIO receives a highly renowned guest professor, who spends several months at the centre. These visits allow the host research group to consolidate its ties with the group of the centre to which the visiting researcher belongs, as well as to start new work lines thanks to the exchange of common ideas and interests. The collaboration between Fundación Jesús Serra and the CNIO in the framework of this initiative dates back to 2009.

For the President of Fundación Jesús Serra, Federico Halpern, this collaboration reflects the firm commitment of the company to scientific research. "Thanks to the collaboration between Spanish reference organisations such as the CNIO and other renowned international centres, we have managed to create synergies that allow international research to be promoted in such outstanding fields as the fight against cancer," he said.

For her part, the Director of the CNIO, Maria A. Blasco, said that "the Visiting Researchers Programme of the Fundación Jesús Serra is very important for strengthening synergies between researchers and research centres around the world." "Having the opportunity to exchange ideas with researchers, specially of the international stature of Sonia Laín enriches and boosts the research on cancer in our centre," she concluded.

During her stay at the CNIO, Laín has already had the opportunity to interact with the Experimental Therapies Programme directed by Joaquín Pastor. "This experience has helped me substantially to assess and compare our projects dedicated to the development of anti-cancer drugs," explained the researcher. Furthermore, its interaction with other groups has resulted in two lines of work, one with Mariano Barbacid, head of the Experimental Oncology Group, and the other with Nabil Djouder, head of the Growth, Nutrients and Cancer Factors Group.

Sonia Laín and Mariano Barbacid have obtained funding to study the potential of two chemical compounds, which combined, could treat a specific type of cancer with KRAS mutation, an oncogene involved in at least one fifth of all human cancers. Furthermore, thanks to this collaboration between the CNIO and the Karolinska Institutet, Nabil Djouder has begun the preparations for a series of experiments,

About Fundación Jesús Serra

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necessary to test live, of one of the Swedish institute's hypotheses on the effect of DHODH enzyme inhibitors on metabolism.

Laín has acknowledged her gratitude at having been able to make this visit. "It is a great honour for me that both the Centre's Management and the Fundación Jesús Serra have provided me with this opportunity. Given its international reputation and the magnificent publications it produces, it is not necessary to stress that the CNIO is an exceptional place to conduct research on cancer. In my view, it is also a centre where resources are used very effectively, wisely and quickly," he added.

About Sonia Laín

Sonia Laín completed her PhD studies at the Molecular Biology Centre in Madrid, and obtained a post doctoral position funded by EMBO to work at the University of Gothenburg in Sweden. She also worked as a group leader at the University of Dundee in Scotland, where she acquired the title of "Senior Lecturer." From 2015 to 2018, part of her laboratory was located in Science for Life Laboratories, also in Stockholm, where she completed projects dedicated to the discovery of drugs in collaboration with the Chemical Biology Consortium Sweden and the Drug Discovery and Development Platform. Currently she is Professor in Molecular Cancer Pharmacology at the Department of Microbiology, Cell and Tumoral Biology at the Karolinska Institutet in Stockholm.

The main achievements of her scientific career include the description of the first helicase encoded by an RNA virus, the identification of the AMPc signalling pathway as a modulator of the Epstein Barr virus oncogenes and the demonstration that the tumour suppressor protein p53 can be activated by a molecule that inhibits its export from the cell nucleus to the cytoplasm. This discovery and the establishment of a company in the USA, which develops inhibitors of the export of proteins for therapeutic purposes, motivated the start in her projects laboratory devoted to anti-cancer drug discovery. Over the past few years, her team has gained experience in identifying the mechanism of action of new molecules and their development as drugs.

Currently, the main line of research in her laboratory is the discovery and study of ribonucleotide synthesis inhibitors and, in particular, of dihydroorotate dehydrogenase (DHODH) inhibitors. One of the series of inhibitors discovered in her laboratory may be of interest for the treatment of certain leukemias and tumours among children. Right now, these molecules are being developed and evaluated by an international company.

About CNIO

The CNIO is a public Spanish institution engaged in cancer research, diagnosis and treatment. Ranked among the top 10 monographic cancer research centres in the world (Scimago report; Nature Index), the CNIO covers the whole R&D+i scope, from basic to clinical research, in order to quickly and effectively transmit the results to the National Health System and pharmaceutical and biotechnological markets.

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The CNIO has an Experimental Therapy Programme that includes the initial development phases of therapeutically-targeted drugs on which its scientists are working. Some of the CNIO molecules have been licenced to international pharmaceutical companies. Furthermore, the CNIO has a significant stake in open innovation programmes of international pharmaceutical companies, which has led to the CNIO securing more than €25 million in the last 6 years. It has also spawned 3 spin-off companies, whose developments have also reached and benefited the Centre's patients. Such data clearly shows the Institution's commitment to innovation and technological dissemination and illustrates the importance of public-private collaboration in making important contributions to the disease's diagnosis and treatment.

Another fundamental pillar for the CNIO is to bring science closer to society through initiatives such as CNIO Arte, a project that brings scientists and artists together to create new artwork around scientific research, or CNIO Friends, a philanthropic platform through the that any person, company or association can collaborate with the cancer research carried out by the Centre, and thanks to which a competitive International Contracts Programme has been promoted "CNIO Friends" to attract research talent.

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