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Gonçalo Bernardes, an expert in the development of highly accurate oncology drugs, begins his "Fundación Jesús Serra" stay at the CNIO

- **Bernardes, from the University of Cambridge (UK), is researching drugs that act primarily on the tumour to reduce side effects. He is following an innovative idea: searching for pharmacological targets in a part of the genome that is unexplored from a therapeutic point of view.**
- **Over the coming months, he will work closely with researchers at the National Centre for Cancer Research (CNIO) as the beneficiary of the latest edition of the Fundación Jesús Serra (Grupo Catalana Occidente) Visiting Researchers programme.**
- **Bernardes' research has led to three spin-off companies in Portugal and the USA. One of them has a clinical trial already underway for glioblastoma multiforme.**

Gonçalo Bernardes, Professor of Biological Chemistry at the University of Cambridge (United Kingdom), has started his stay at the National Cancer Research Centre (CNIO) thanks to the Visiting Researchers programme of the Grupo Catalana Occidente's Fundación Jesús Serra. The scientist is conducting completely new translational research to develop novel precision oncology drugs that act primarily on the tumour to maximise their effectiveness and minimise side effects.

His idea is to target the effects of the drugs to the part of the cell's genome that is not translated into proteins. This strategy is very different to that followed by conventional drugs and it means, in practice, opening up a large part of the genome that has gone unexplored from a therapeutic point of view to the search for pharmacological targets.

"Only 1.5% of the genome is translated into proteins, and current drugs target only 0.05% of that already small part. Can we do something to target the rest of the genome?" asks Bernardes. His answer has been to develop "molecular-scissors" that selectively cut and degrade specific RNA fragments that have been shown to be critical to the development of cancer.

Thanks to the Visiting Researchers programme of the Fundación Jesús Serra, this researcher, whose group is an international leader in the search for precision oncology drugs, will work closely with CNIO researchers over the coming months.

"The use of most current oncology drugs is limited by their tolerability by patients", explains Bernardes, "so our main goal is to develop drugs that act very selectively in the appropriate tissues, for example in the tumour itself or in the surrounding environment, thus limiting their powerful anti-tumour action to that area, with no side effects".

About Fundación Jesús Serra

Fundación Jesús Serra is a non-profit organisation created in memory of Jesús Serra Santamans, a well-known businessman and sponsor and founder of Grupo Catalana Occidente. The foundation develops and supports projects in the areas of research, education, business, social action, sports, and promotion of the arts, with a common goal: a responsible commitment to society.

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This is achieved by chemically bonding the drug compound to molecules, like antibodies, that guide them to the tumour.

This strategy, applied using different approaches, has already given rise to several patents and is being tested in two ongoing clinical trials, one against glioblastoma, a brain tumour; and against solid tumours in general. The results of phase 1, which assesses toxicity, will be available in 2023.

Bernardes is the author of more than 170 scientific publications and has two dozen patents. His research has led to three spin-off companies in Portugal and the USA. One of them is listed on the stock exchange. To fully realise the translation potential of his research findings, he co-founded TargTex, the company that developed the glioblastoma multiforme therapy that is being tested. He is also on the boards of several companies.

Jesús Serra Foundation and the CNIO

The aim of the Fundación Jesús Serra Visiting Researchers programme is to finance the stay of a researcher at the CNIO who has been working at a prestigious international centre for the last five years. These visits consolidate the host research group's ties with the group at the centre to which the visiting researcher belongs, and allow them to start work in new areas thanks to the exchange of common ideas and interests.

The collaboration between the Fundación Jesús Serra and the CNIO dates back to 2009. The programme has made it possible for the CNIO to host stays from David Goldgar; Rama Khokha; Mercedes Rincón; Astrid Laegreid; Maria Sibilía; Robert Benezra; Peter Petzelbauer; André Nussenzweig; Stephan A. Hahn; Patrick Sung; Chaitanya R. Divgi; Marcin Nowotny; Madalena Tarsounas; Raúl Rabadán; Wolfgang Weninger; Scott Lowe; Sonia Laín; and Eva Nogales.

During the presentation to announce Bernardes' stay at the CNIO, Laura Halpern, Vice-President of the Fundación Jesús Serra, underscored the Foundation's constant collaboration with some of Spain's leading research centres. "Research is essential to move towards the future", she said.

Biography Gonçalo Bernardes

Gonçalo Bernardes grew up in the coastal city of Torres Vedras, in Portugal. He graduated in chemistry (2004) from the University of Lisbon and received a PhD (2008) from the University of Oxford, United Kingdom. After a brief stint in Portugal as a group manager at a chemical company, he moved to ETH in Zurich (Switzerland), where he developed new antibody-drug conjugates for cancer therapy. In 2013, he received a grant from the Royal Society to create his independent group in Cambridge. He has been a professor at this university since October of this year.

His numerous recognitions include the International Chemical Biology Society's (ICBS) Young Chemical Biology award in 2020.

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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.

About Fundación Jesús Serra

The Fundación Jesús Serra is a private non-profit organisation of the Grupo Catalana Occidente. It was created in 1998 in memory of Jesús Serra Santamans, renowned entrepreneur and patron and founder of the insurance group. The foundation focuses its efforts in five areas of activity: Research, Business and education, Social action, Sport and Promoting the arts. Within the research area, its work focuses on channelling the patronage activity that the Group has been engaged in for more than a century, promoting its own research awards to recognise the research achievements of young Spanish scientists in the fields of food and nutrition.

It also supports programmes that bring the knowledge of international scientific experts to Spanish research groups, and other collaborations that pursue scientific advances in cardiovascular and oncology research.

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