PRESS RELEASE

EUROPEAN CENTER FOR TRANSPLANTATION SCIENCES AND IMMUNOTHERAPY

As part of the city of Nantes' candidature for a University Hospital Institute

(*Institut Hospitalo-Universitaire*, IHU):

The Nantes IHU bolsters its core strengths and draws in new talent

- ✓ *An internationally acclaimed leader in stem cell research joins the project*
- ✓ *Creation of three key technology platforms*
- ✓ *Two unique preclinical primate platforms*
- ✓ *The world's leading biological resource centre in the transplantation field*
- ✓ *A prestigious panel of scientific advisers and international strategic consultants*

Nantes, France - February 15th, 2011 – The **University Hospital Institute (IHU)'s** "European Center for Transplantation Sciences and Immunotherapy" (TSI-IHU) initiative has reinforced its research firepower by hosting a group with international acknowledged expertise stem cell research and creating three key technology platforms. Furthermore, the IHU now has a panel of internationally renowned experienced advisers and consultants who actively contribute to the institute's Scientific Advisory Board and Administrative Council.

This influx of expertise will have a major impact on the initiative's competitive edge, particularly at the so-called "new frontiers" of transplantation and immunotherapy science - gene therapy and the transplantation of stem cells and animal cells, all of which could open up a new era in regenerative medicine. The IHU is now developing innovative new clinical applications in each of these three fields - the only initiatives of their kind in Europe.

A new research group joins the IHU: John De Vos, MD, PhD (a cell therapy unit manager and a specialist in the biology of induced pluripotent stem cells (IPSCs) and embryonic stem cells (ECSs)) has been appointed as a Professor at the IHU in Nantes. For this first flagship initiative, the IHU's founding institutions will provide Dr De Vos with a seven-strong team, including an assistant professor, two research engineers, two postdocs and two PhD students. Funding will be provided by the University of Nantes and Nantes University Hospital. The group will be able to draw on the resources of an IPSC-dedicated technology platform managed by additional personnel and also led by Dr John De Vos.

Dr John De Vos commented on the development, saying *"I am delighted to be able to come and develop my work in Nantes in such a creative environment and with cutting edge technological support."* He added that *"one of the greatest challenges in healthcare is regenerative medicine - that is to say the regeneration of organs that have been damaged by illness or by old age. There are huge medical and economic issues at stake here. In France, the city of Nantes and the surrounding area boast a unique set of talent and infrastructure that is dedicated to this new medical frontier. In particular, the IHU's dedicated stem cell platform means will enable me to accelerate my research into therapeutic applications of IPSCs - particularly in the fields of neurology and nephrology. I will be leading this research in collaboration with IHU research groups who are leaders in the pathology of these organs."*

The IHU is also bolstering its research into stem cell applications; several clinical trial protocols using stem cells in various pathologies, such as skin cancer (Professor Brigitte Dréno) and muscle diseases (Professor Yan Cherel) have already been submitted to the regulatory authorities or fed into translational research programmes.
Other initiatives are taking place in the field of cohort biostatistics and B lymphocyte biology. Another TSI-IHU initiative at the cutting edge of research is an international Scientific Interest Group formed with the Catholic

University of Louvain, Padua University, the Grimaud industrial group and its Hypharm subsidiary. The Scientific Interest Group has already set up a collaboration with the University of Minnesota to facilitate the production of a pig whose cells can be used in medicine. This initiative makes Nantes the top European location for possible applications of very promising medical applications in a number of significant public health issues, such as type 1 diabetes.

A second technology platform (co-ordinated by Drs Tuan Huy Nguyen and Ignacio Anegon) is focusing on revolutionary molecular tools for genome surgery. This technology has enabled Nantes to develop new transgenesis techniques and led to a publication in Science in 2009.

"The third platform being structured by the IHU providing the campus's research groups with new technological tools for achieving in vivo proof of concepts on severe combined immunodeficient mice and related models. This work is being co-ordinated by Bernard Vanhove and Sophie Brouard, both research directors at the French National Centre for Scientific Research. This initiative should facilitate the emergence of new concepts in immunointervention (as described in a 2010 publication in Science Translational Medicine)", reported Dr Marc Bonneville, an international renowned immunologist, member of the IHU Steering Committee.

These new tools complement the site's already exceptional technological assets. In fact, the Nantes IHU has a world-leading biological resource centre in the field of transplantation sciences (38,000 biological samples, all linked to the clinical data from the 16,000-strong DIVAT cohort of transplant patients and listing over 300 parameters per disease). The IHU also has two preclinical primate platforms - the only ones of their kind in Europe. One platform is coordinated by Dr Philippe Moullier at the Boisbonne animal experimentation centre (with support from Nantes National Veterinary School (ONIRIS), the French National Institute for Health and Medical Research (INSERM), the French Muscular Dystrophy Association (AFM) and the Biology Health and Agronomy Infrastructure Group (IBiSA)), whereas the Large Animals Laboratory (funded by Nantes University Hospital and INSERM) is led by Professor Gilles Blanchot.

As the leader of the Nantes IHU initiative, Professor Jean-Paul Soulillou emphasised that "*many of the IHU projects are linked to long-established institutions. Although some people consider that Nantes is a new, emerging campus, it is already undergoing strong growth and has a critical mass of prominent researchers in its target domains"*.
"The *spectacular growth at our biomedical campus in Nantes site is evidenced by three parameters: the number of researchers, the number of specialist units and the number of biotech start-ups - all of which have trebled over the last ten years!",* added Prof. Mohamad Mohty, Head of the Stem Cell Transplant program, promoted as Director of Clinical Research and Education at Nantes IHU.

The IHU initiative also benefits from the expertise and guidance of a panel of scientific advisors and international strategic consultants drawn from the International Scientific Advisory Board and including Jonathan S. Bromberg (University of Maryland, USA), Megan Sykes (University of Columbia, USA), Katherine A. High (University of Pennsylvania, USA), Dietger Niederwieser (University Hospital Leipzig, Germany), and René A.W Van Lier (University of Amsterdam, the Netherlands). The IHU's Administrative Council has also been strengthened by the notable addition of Michel Goldman (a former ex-director of the Medical Immunology Institute at the Free University of Brussels and current Director of the Innovative Medicines Initiative led by the European Union and the European Federation of Pharmaceutical Industries and Associations), Hartmut Wekerle (a former Director of Life Science at the Max Planck Institute, Germany), Antonio Coutinho (Director of the Gulbenkian Institute for Science in Lisbon, Portugal) and Elisabeth Hubert (a former French Health Minister and former CEO of Laboratoires Fournier, currently Chairperson of HAD France and the French national federation of home care providers (FNEHAD) and an expert in university-hospital collaboration).

About the Nantes IHU project

The Nantes University, Nantes University Hospital, the Nantes National Veterinary School (Oniris), Nantes urban area and the region Pays de la Loire intend to create a University Hospital Institute (*Institut Hospitalo-Universitaire*, IHU) called the "European Centre for Transplantation Sciences and Immunotherapy". This patient-centered translational research project is focused on curing diseases by the transplantation of organs, cells and genes and by opening up new frontiers in regenerative medicine, with a strong unifying bond: immunology. The TSI-IHU project (led by Professor Jean-Paul Soulillou and involving over 1000 staff) is establishing itself as Europe's leading program in the transplantation sciences, Europe's busiest centre for kidney transplants and leading pancreas transplant centre and one of the most visible places in gene and cell therapy in France (in collaboration with the AFM). The TSI-IHU project combines clinical laboratories (5 joint INSERM and INRA/university units), Nantes National Veterinary School and university groups. For the first time in Europe, TSI-IHU brings together research groups working on not only organ and hematopoietic cell transplantation but also new frontiers in transplantation: allo- and xenogenic cells and "gene drugs". The project envisions the creation of new companies and over 800 highly qualified jobs. Key partnerships have been signed with biotech firms (9 of which were founded within the IHU's boundaries) and leading pharmaceutical groups including the Grimaud group, LFB, Roche and Novartis.

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