

XenOPAT, mouse models for personalized cancer treatment

September 23 2014

On September 8th, the company XenOPAT SL, a spin-off of the Institute of Biomedical Research (IDIBELL) and the Catalan Institute of Oncology (ICO) was established with the aim of bringing the company the latest scientific developments to the service combating cancer with two main branches: the development of new drugs and advance the implementation of personalized cancer treatments.

Orthotopic models and personalized medicine

XenOPAT services are based on the use of orthotopic models (orthoxenograft®) mouse by implantation of small pieces of human tumors in the corresponding organ of the animal. Thus, for example, a human ovarian tumor is implanted in the mouse ovary. Thus, the animal model reproduces the histological, genetic and epigenetic characteristics of human tumors, as well as patterns of spread, which is not achieved with other methods of implementation.

In the field of [new drugs](#) development, XenOPAT offers researchers, but especially companies developing new drugs, a bank of tens of orthotopic mouse models that reproduce different types of tumors characterized at the genetic level and with different sensitivities to various chemotherapies. This bank, called OrthoXenoBank®, including colon, lung, ovarian, endometrial, breast, pancreas, [germ cell tumors](#), head and neck, etc. So XenOPAT offers a wide range of possibilities to test new drugs in advanced models, allowing for the best possible

preclinical essential for the complicated process of drug development.

In the area of [personalized medicine](#), XenOPAT offers the possibility of generating a orthoxenograft® tumor from a patient so that we can identify the treatment that offers the maximum guarantees of response for each patient.

Partners

XenOPAT is the work done over many years by two partners who have now decided to bring their research to the business world: the researcher Alberto Villanueva and pathologist August Vidal. The third partner, Anna Portela, is responsible for the management of the company.

Alberto Villanueva Garatachea Phd., Responsible for Group Research Drug Resistance and Xenografts at ICO-IDIBELL. He is internationally recognized for his work in the generation of tumor models (Personal Derived Xenofraft (PDX) and orthotopic orthoxenografts® used both for the study of the mechanisms of acquisition of resistance to important chemotherapeutic treatments (cisplatin, 5 fluoracil and oxaliplatin) as development of new drugs and treatments. Some of the models generated by Dr. Villanueva are unique in the world. has authored numerous scientific publications.

August Bel Vidal, MD. Optional Pathologist Department of Pathology, University Hospital of Bellvitge (HUB). Program Director of Pathology. Responsible for the areas of gynecological pathology and dental pathology and collaborator areas of urologic pathology and head and neck pathology. Vidal has extensive experience in the histopathological and genetic characterization of orthoxenografts®.

Anna Portela Mestress, PhD, MBA. Degree in Biology (2001) and PhD in Genetics (2007) from the Autonomous University of Barcelona.

During his PhD he made several stays at international prestige: Universität Hohenheim and Johns Hopkins University. He completed his postdoctoral stay (2007-2014) in the Group of the CNIO Cancer Epigenetics and later in the Cancer Epigenetics Group IDIBELL, led by Dr. Manel Esteller. During this time he worked to understand the molecular basis of cancer and to define biomarkers of prognosis in several tumor types. Alongside did a Masters in Business Administration (MBA) in ESADE (2013).

From lab to industry

With XenOPAT are now four spin-off that has launched the IDIBELL Innovation and Transfer unit since its inception in 2010 At this time the Unit has also requested fifty new patents and has licensed 11 patents in several companies

Provided by IDIBELL-Bellvitge Biomedical Research Institute

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