



## Successful International Collaboration with Centre de Recherche Public-Santé

**Nantes – France, 19th February, 2014** – In-Cell-Art (ICA), a biotechnology company specializing in nanocarrier technologies called Nanotaxi® for macromolecules delivery (DNA, RNA, Protein), announces the successful international collaboration with the Institute of Immunology of the Centre de Recherche Public-Santé (CRP) in Luxembourg. In this collaboration, ICA was responsible for plasmid DNA antigen design and synthesis, Nanotaxi®/plasmid formulation and immunizations in transgenic rat called OmniRat™ from Open Monoclonal Technology, Inc. in order to trigger an immune response against targets of interest from CRP for B cell repertoire analysis.

ICA's Nanotaxi® are the proprietary formulations that can improve the potency of genetic immunization by increasing dramatically expression of the gene-encoded antigen and stimulating the innate immune system through an unique delivery mechanism. The combination of these two properties allows the Nanotaxi® to generate powerful immune responses and antibodies of interest even against extremely difficult targets such as complex of integral membrane proteins and proteins with high homology. Discovered antibodies are of high quality with high specificity and high affinity (~pM).

Bruno Pitard, co-founder of In-Cell-Art, said “We are very happy that ICA was selected in this collaboration with the world leading organization, Institute of Immunology, for its reputation in the field of genetic immunization, and successfully fulfilled the responsibilities. As we proved in this collaboration, Nanotaxi® are very potent formulations not only for wild type animals but also for transgenic animals to elicit an immune response, which can be applied even for discovery of fully human antibodies for therapeutic purpose”.

### **About In-Cell-Art**

In-Cell-Art (ICA), which is headquartered in Nantes (France) is a biopharmaceutical company specializing in the preclinical and pharmaceutical development of nanocarriers named Nanotaxi® for macromolecular drugs. Its founder and research team, which includes a Nobel Laureate, have designed new classes of vectors that are organized on a nanometric scale, which enables them to cross the cell barrier efficiently and safely. In-Cell-Art offers a range of reagents and biotechnology development services:

## **1. ICANTibodies™**

In the absence of recombinant antigen, ICANTibodies™ allows, from an in silico DNA antigenic sequence, the production of the most ambitious functional antibodies against any natively expressed nuclear, cytoplasmic, secreted or membrane proteins. ICANTibodies™ has allowed, in less than 3 years, the production of more than 300 different functional antibodies. In-Cell-Art has worked with a number of pharmaceutical firms (Sanofi, GlaxoSmithKline, Geneuro etc.) and public research institutions and universities (Institut Cochin, Cancer Research UK, Institute of Neurology UK etc).

## **2. Nanotaxi®**

- DNA Vaccine

ICA614 Nanotaxi®, an innovative DNA synthetic formulation, offers unique efficient and industrial features such as the dramatic enhancement of the immunogenicity of plasmid DNA-encoding tumours or pathogen-derived antigens, a reduction in the dose of plasmid DNA, as well as an excellent safety profile. ICA614 Nanotaxi® represents a crucial step in DNA vaccine development, and is currently being tested by major vaccine companies (Sanofi-Pasteur, Merial etc.).

- mRNA Vaccine

Some other ICA Nanotaxi® are also being assessed in \$33.1 million RN-ARMORVAX consortium, co-funded by US Defense Advanced Research Projects Agency (DARPA). The consortium would validate the new application of ICA Nanotaxi® for mRNA-based vaccines for infectious diseases in collaboration with CureVac and Sanofi-Pasteur.

- mRNA Replacement Therapy

Some other ICA Nanotaxi® are also developed to improve the limited efficacy and stability of mRNA therapeutics, leading to the dramatic increase in therapeutic protein expression without DNA-encoded gene.

## **3. ICAFectin® transfection reagents**

ICAFectin® transfection reagents are innovative breakthrough synthetic vectors for in vitro nucleic acid delivery. They are becoming the reagents of choice for efficient DNA and siRNA transfections as demonstrated by their increasing use in numerous studies published in high impact factor journals including Journal of Biological Chemistry, Nucleic Acids Research, PLOS ONE, PLOS Pathogen, Human Gene Therapy and more.

In-Cell-Art is a privately held company, which was founded in 2005. It is a member of the Atlanpole Biotherapies high-tech cluster of biotechnology companies in western France.

### **About Centre de Recherche Public-Santé**

The Institute of Immunology is a public research organization in Luxembourg active in the field of vaccine development and worldwide virus surveillance. As a recognized WHO Collaborating Centre for Reference and Research on Measles Infections, the Institute has considerable expertise and know-how in immunobiology and public health issues associated with morbilliviruses and other human and veterinary viruses.

<http://www.crp-sante.lu/>

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