



In-Cell-Art Announces successful discovery of tumoral mutant poly neo-antigens/ Nanotaxi® candidate with a leading company in Big Data and supercomputing

Nantes – France, 24th of November, 2017 – In-Cell-Art (ICA), a biotechnology company specialized in nanocarrier technologies called Nanotaxi® designed to unlock the promise of nucleic acids to treat acquired or inherited diseases, announces today that ICA and a leading biopharmaceutical company in big data and supercomputing succeed in a preclinical study for the development of Nanotaxi® formulated DNA vaccine encoding various tumor specific mutations to induce strong T cell lymphocyte response.

Under this collaboration, ICA and a leading bioinformatics company identify mutations from tumor cells using computational tools to create immunogenic peptides containing these mutations for a poly-neo-epitope DNA vaccine.

For a low-dose and poly-neo-epitope DNA immunotherapeutic design, the delivery method uses Nanotaxi®, which can deliver genetic material directly into the cytosol to dramatically increase gene expression and elicit very strong innate immune responses.

ICA and this leading bioinformatics company will continue to collaborate to develop personalized DNA/Nanotaxi® based immunotherapeutic approaches to treat cancer.

Bruno Pitard, a founder of In-Cell-Art, says “This is an important first milestone to realize a poly-neo-epitope immunotherapy strategy which can overcome the issues of genetic variation and antigenic diversity in cancer. The Nanotaxi® technology can deliver DNA encoding various neo-antigens at once. This allows us to develop a single injection, which contains a set of diverse neo-antigens that covers different mutations to induce immune responses with unprecedented breadth and potency against tumoral cells.”

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. ICA 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 GMP fill/finish of ICA614 Nanotaxi®, as well as regulatory-enabling GLP safety evaluation of ICA614 Nanotaxi® alone HEPAVAC (Hepatocellular vaccine candidate) have been achieved successfully.

•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, Cell reports, EMBO J and more.

In-Cell-Art is a privately held company, which was founded in 2005, laureate in 2013 and 2013 of the Fast 50 Deloitte award. It is a member of the Atlanpole Biotherapies high-tech cluster of biotechnology companies in western France.

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