

28. October 2015

Progress made with novel breakthrough vaccines: new production cell lines cope with difficult to express toxic antigens

Novelty at upcoming Bio Europe in Munich: SIRION Biotech announces high production yields with toxic antigens for vaccine production

Munich, 28 October 2015, very soon will there be novel breakthrough vaccines in the market. Associating vaccines with just prophylaxis is a thought of the past, increasingly, vaccines will demonstrate therapeutic effects specifically in the field of so far difficult to address tumor diseases (immune therapies).

A critical hurdle has in the past been making enough of the vaccine vector material. This is especially difficult if not impossible when antigens are toxic because they are of viral or bacterial origin as is the case for HIV envelope proteins and bacterial virulence factors. This occurs in the majority of cases.

In a 2-years development project SIRION Biotech applied genetic modification to widespread and inexpensive HEK293 cells and suppressed specific antigen production during the process. This novel cell line overcomes production issues related to all DNA-based viral vectors that are expressing toxic proteins during the process. The technology is generally applicable to the production of DNA-vector based vaccines and can be applied to common vaccine production cell lines.

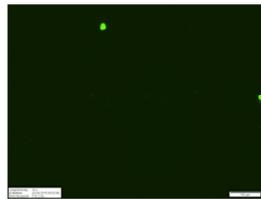
The chart below illustrates the production of Ad19aCMV-GFP in SIRION's AV-tox cell line with and without regulatory sequences suppressing gene expression of – in this case – GFP, at similar yields.

SIRION Biotech collaborates with Prof. Peter Holst from University of Copenhagen and combines new antigens with his innovative invariant chain adjuvant technology for the benefit of novel cancer immune therapies. Basis of these co-development is SIRION's lead candidate Ad19a as novel adenovirus serotype with promising immune response-stimulating activity. A treatment vaccine based on this technology against established HPV infections will be evaluated next in a preclinical safety and efficacy study .

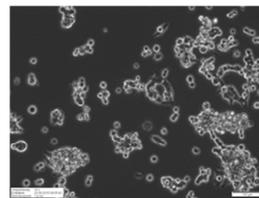
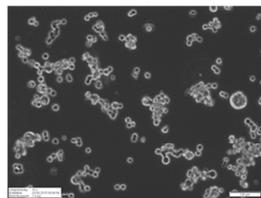
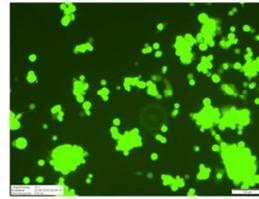
Experts gathering for [Bio Europe in Munich](#) next week will discuss applications of this novelty.

AV Toxic Production Cells

A2228
Ad19-CMV-(xxx)-GFP



A2405
Ad19a-CMV-GFP



Productivity

119%

100%

[About SIRION Biotech www.SIRION-Biotech.com](http://www.SIRION-Biotech.com)

SIRION Biotech started in Munich in 2007 with the idea of developing next generation viral vectors for research, gene therapy and vaccines. This required the assembly of an all-encompassing, novel viral vector platform. Both, designing de novo viral vectors and the subsequent creation of custom cell models will pave the way for superior compound development in the life sciences. SIRION's technologies have been validated in over 500 single projects with more than 150 academic and industrial partners.

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