



The quest for a universal vaccine against influenza

European Commission supports EDUFLUVAC project to develop an innovative vaccine against influenza

Heidelberg, 20 November 2013

Seasonal influenza occurs all over the world with an annual global attack rate estimated at 5 – 10% in adults and 20 – 30% in children, and causes about three to five million cases of severe illness and 250,000 to 500,000 deaths. The most effective way to prevent the disease or severe outcome is vaccination. However, due to the unpredictable and highly mutable nature of the influenza virus, current vaccines only offer limited protection against new variants and need to be administered annually. To overcome these weaknesses, a consortium of European experts has joined forces in the EDUFLUVAC project, which has been awarded a grant of € 4.5 million by the European Commission to develop a broad-spectrum, long-lasting vaccine against influenza.

“Developing a universal flu vaccine has become a global health priority for preventing the spread of the virus and the emergence of new strains, and we are convinced that EDUFLUVAC will be a major step forward towards achieving this goal”, says Othmar Engelhardt, principal investigator at the National Institute for Biological Standards and Control, United Kingdom.

The innovation brought by EDUFLUVAC lies in the development of a combinatorial immunisation strategy, which aims to “educate” the immune system to cross-recognise common regions within multiple influenza virus strains, and which is expected to confer better protection against epidemic influenza. The development of a “universal” influenza vaccine would offer the tremendous

advantage of eliminating the need for a “seasonal” vaccine every year and annual vaccination campaigns.

Odile Leroy, Executive Director of the European Vaccine Initiative and coordinator of EDUFLUVAC, says: “Low and middle-income countries currently have minimal influenza vaccination programmes. Thus, the development of a vaccine that elicits broad long-lasting defence would facilitate vaccination campaigns and confer protection against influenza in hitherto untargeted groups with limited health care”.

The EDUFLUVAC consortium is a public-private partnership comprising seven renowned organisations from Europe. The four-year project brings together two small-medium enterprises from Switzerland and Portugal –Redbiotec and iBET, respectively- and a biotechnology company from Italy –ETNA- with prominent researchers from two Dutch institutes – the Biomedical Primate Research Centre and the Central Veterinary Institute – and the National Institute for Biological Standards and Control. EDUFLUVAC is coordinated by one of Europe’s leading Product Development Partnership, the European Vaccine Initiative, headquartered in Germany.

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About the EDUFLUVAC partners:

European Vaccine Initiative

The European Vaccine Initiative (EVI; European Malaria Vaccine Initiative, EMVI, until 2009) is a leading European non-profit Product Development Partnership that has the principal objective to develop effective, accessible, and affordable vaccines against diseases of poverty. Since its inception in 1998 it has contributed to the development of 32 vaccine candidate formulations with 15 vaccine candidates being advanced into phase I clinical trials, three of which have been transitioned to partner organisations for further clinical development. EVI is hosted by Heidelberg University, Germany.

www.euvaccine.eu

Redbiotec

Redbiotec AG (RBT) is a privately Swiss Biopharmaceutical Company, based in Zurich-Schlieren. At the core of RBT lies the rePAX® co-expression technology platform for the efficient generation of recombinant multi-component virus-like particles (reVLPs®) and other protein assemblies for vaccine development and display of membrane proteins for therapeutic antibody development.

www.redbiotec.ch

iBET – Instituto de Biologia Experimental e Tecnológica

The Instituto de Biologia Experimental e Tecnológica (iBET) is a private not for profit research organisation created in 1989, acting as an interface between academic and industry research. iBET brings together, as partners and collaborators, private companies and public institutions, organising competences for product and process development. iBET know-how in terms of biopharmaceuticals spans from the initial expression vector design and cell line establishment through all stages of process development and scale-up (production, purification, stability and storage). Currently iBET collaborates with over 40 European and USA companies.

www.ibet.pt

ETNA

Etna Biotech S.r.l. is a Research Centre headquartered in Catania, Italy. Start up of the former Swiss Serum and Vaccine Institute, later Berna Biotech, Etna Biotech is a company whose key competencies lie in researching and developing vaccines and immunotherapeutics for infectious diseases and other chronic illnesses. Etna Biotech has been acquired in 2008 by the Zydus International Ltd a Zydus Cadila Company. Zydus Cadila is an innovative global pharmaceutical company that discovers, develops, manufactures and markets a broad range of healthcare products.

www.etnabiotech.it

Biomedical Primate Research Centre

The Biomedical Primate Research Centre (BPRC) is a not for profit research foundation, with a strong background in vaccine development. BPRC investigators have pioneered key steps in the development of malaria, HIV, Hepatitis C, West Nile virus and Tuberculosis vaccine candidates. BPRC is committed to using non-human primates for this critical research only when there are no suitable alternatives. The non-human primate facilities at BPRC allow challenge studies with

pathogens up to BSL3plus level. BPRC offers state of the art immunological expertise and animal facilities (AAALAC accredited) and is fully compliant with regulations on the use of non-human primates for medical research.

www.bprc.nl

Central Veterinary Institute

The Central Veterinary Institute (CVI), part of Wageningen University & Research Centre, is a leading research and diagnostic institute in animal health protection. The institute has a long, successful history of involvement in vaccine development, predominantly in veterinary vaccines. CVI has successfully participated in a number of European Commission projects on influenza (FLUPATH, FLUAI, ESNIP) and collaborates with several industrial partners in research activities for vaccine development.

www.wageningenur.nl/en/cvi

National Institute for Biological Standards and Control

The National Institute for Biological Standards and Control (NIBSC) -a centre of the Medicine and Healthcare Product Regulatory Agency- is operating at the interface between cutting edge scientific research, biopharmaceutical quality control and government regulation, and has recently merged with MHRA (UK National Regulatory Authority) in 2013. It is the global leader in the field of biological standardisation, responsible for developing and producing over 90% of the International Standards in use around the world to assure the quality of biological medicines. The NIBSC also plays an important role as one of the four World Health Organization (WHO) Essential Regulatory Laboratories for influenza vaccines.

www.nibsc.org