

UK government funding for Oxford Biotech company to work with Australian vaccine company on innovative Covid-19 vaccine

Vaxine Pty Ltd partners with UK company, Oxford Expression Technologies, on COVID-19 vaccine development

LONDON, UNITED KINGDOM, September 1, 2020 /EINPresswire.com/ -- A grant from Innovate UK, part of UK Research and Innovation, has been made to support a partnership between Vaxine Pty Ltd (<http://vaxine.net>) who developed the world's first swine flu vaccine in 2009, and Oxford Expression Technologies (<https://oetltd.com>).

This Innovate UK grant endorses the promise of Covax-19[®] vaccine, which has been developed by Vaxine, an Australian biotechnology company focussing on the development of innovative vaccine technologies.

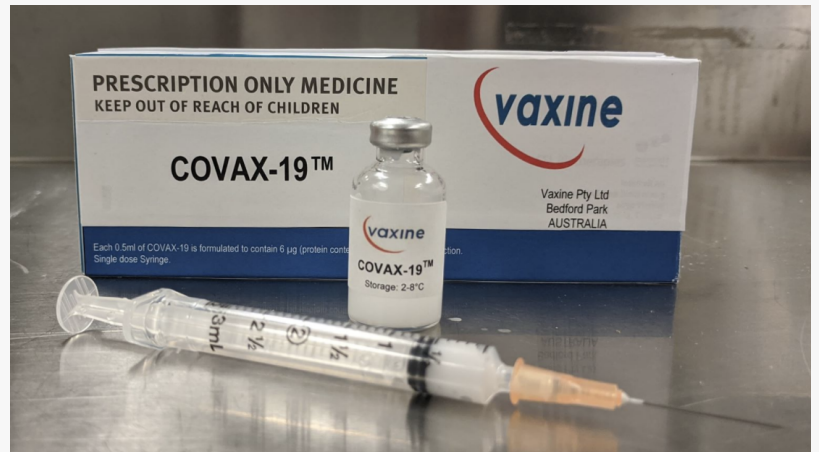
It's lead product Advax delta inulin adjuvant has previously been used to develop a swine flu pandemic vaccine that was advanced into human trials in under 3 months from discovery of the new virus, then a record for pandemic vaccine development. They have also used the same approach to develop vaccines against SARS and MERS coronaviruses.

Oxford Expression Technologies (OET), are experts in insect cell protein expression systems and specialise in recombinant protein expression. Their flashBAC[™] range of baculovirus expression vectors have been designed for improved recombinant protein expression levels and quality.

Covax-19[®] is a rapidly scalable SARS-Cov-2 vaccine platform based on recombinant spike protein



Vaxine Pty Ltd company logo



Vaxine's promising new COVID-19 vaccine candidate

manufactured in insect cells and the Innovate UK grant will enable OET experts to use their technology to support Vaxine.

We work with
Innovate UK

Professor Nikolai Petrovsky, Research Director of Vaxine and a Professor at Flinders University said:

Vaxine's focus is always on vaccine safety and tolerability, as well as effectiveness. The insect cell protein expression system offers the best safety and tolerability and that was why we chose it for production of our Covax-19[®] vaccine ."

“

Covax-19 shows extraordinary promise, combining effectiveness, safety and tolerability”

Arnaud Mallevre, Advisory Board Member

Together the two teams made an application to UKRI under the Covid-19 open call. The proposal, which has been funded by Innovate UK, started on 1st August.

Professor Petrovsky commenting on the grant, said:

"We are hoping to make our Covax-19 globally available

and this UK Innovate grant will now accelerate this process"

Sharen Pringle, Vaxine's Business Manager, said:

"The Vaxine team are very proud to be one of the global leaders in efforts to develop synthetic protein vaccines against COVID-19."

Professor Linda King, Professor of Virology at Oxford Brookes University and co-founder of OET said;

"Effective vaccines against COVID-19 are desperately needed to allow all our lives go back to normal and OET is delighted to be assisting Vaxine with Covax-19[®]"

Professor Robert Possee CEO of OET explained that

"It is a great opportunity to be able to use our knowledge of insect cell expression systems to help the Vaxine team with their COVID-19 vaccine, insect cell systems offer many benefits including safety, high yields and low costs and allow rapid vaccine strain changes in event the virus mutates."

The next step for Vaxine in addition to planning clinical trials in the UK, will be to undertake an international Phase 3 clinical trial of Covax-19[®] to confirm its ability to protect against COVID-19

infection, thereby opening the door to commercial sales in early 2021.

Background

As soon as the genomic sequence of COVID-19 was released in January, this was used by the Vaxine team led by Professor Nikolai Petrovsky, Research Director of Vaxine Pty Ltd and a Professor at Flinders University, used complex computer simulations to identify and characterise the key COVID-19 spike protein thereby enabling them to design their vaccine called Covax-19. The next challenge was to select the method to produce the Covax-19[®] vaccine. The Vaxine team initially explored nucleic acid approaches including RNA and DNA and also considered the adenovirus vector approach used by other teams, but discounted these approaches due to the fact they remain unproven in humans.

Instead the Vaxine team decided to pursue a synthetic protein approach, which although more complex and time consuming, is a well proven approach that is the basis for many existing vaccines including against influenza, hepatitis B and papilloma virus.

After deciding on a synthetic protein approach, a cell line had to be selected for making the protein. After review of all the possibilities, the team chose an insect cell protein expression system, as this is a well-known platform that is already used to produce several FDA licensed vaccines, and was also used by the team as the basis of a successful SARS coronavirus vaccine in the past. In all these vaccines the synthetic protein is then combined with Vaxine's proprietary Advax adjuvant which acts to turbocharge vaccines and make them more effective.

This Innovate UK grant endorses the promise of Covax-19[®] vaccine, with protein-based vaccines offering an alternative to other approaches such as viral vectors or nucleic acid, with benefits including having a well-established regulatory pathway and favourable safety and tolerability records.

Footnote

A recent audit by the UK government showed that the UK currently does not have the capacity to produce vaccines at scale using the insect cell approach, despite widespread use of this technology overseas to produce vaccines and gene therapies. However, Professor Possee added that

"We hope to work with Vaxine to correct this deficiency to the benefit of the UK and other countries, not only for COVID-19 but other much needed vaccines."

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