PRESS RELEASE

Emergex Awarded £490,525 UK Aid Grant by the Department of Health and Social Care to Advance Synthetic T cell Vaccine Candidate for Chikungunya Virus

Abingdon, Oxon, UK, 22 February 2022 – Emergex Vaccines Holding Limited ('Emergex', or 'the Company'), a company tackling major global infectious disease threats through the development of 100% synthetic Priming T cell Adaptive Vaccines, today announces that it has been awarded a £490,525 grant by the UK government's Department of Health and Social Care ('DHSC') to advance a synthetic T cell vaccine candidate for Chikungunya virus.

The grant will cover the cost of generating a Chikungunya vaccine prototype. The project covers the identification of novel Chikungunya peptide epitopes (collectively constituting the "ligandome"), synthesis of a vaccine candidate and testing in *in vitro* efficacy models.

The funding, administered through UK Aid (Official Development Assistance) funding, was awarded following a Small Business Research Initiative (SBRI) competition funded by the DHSC's UK Vaccine Network (UKVN), delivered through Innovate UK. The SBRI awarded grants totalling £10 million to 22 research projects that address vaccine development for the UKVN's 12 priority pathogens with epidemic potential in low- and middle- income countries (LMICs), including Ebola, Zika, Lassa Fever, Crimean-Congo Haemorrhagic Fever (CCMF), among others. The UKVN was established in response to the 2015 West Africa Ebola outbreak which highlighted the significant potential threat posed by Ebola and other virus pathogens.

Emergex will generate a fully synthetic Priming CD8+ T cell Adaptive Vaccine candidate by targeting regions of the Chikungunya virus that are common amongst all *Togaviridae* viruses. The vaccine, as with all of Emergex's vaccine candidates, combines two proprietary technologies comprised of [i] identification of viral protein fragments (otherwise known as peptides or ligands) carefully selected from an empirical viral code repository, or "ligandome" library, and [ii] a gold nanoparticle carrier, designed to deliver the selected peptides to the epidermis via micro-needles to promote natural long-term protective skin cellular immunity to mosquito-borne infections. The T cell priming vaccines have already shown to be safe in two ongoing clinical trials for dengue and SARS-CoV-2. When combined, the technologies constitute a 100% synthetic vaccine construct for Chikungunya and potentially other alphaviruses. Vaccine characteristics enable stability at ambient temperatures, suitable for the LMICs where Chikungunya is endemic and most prevalent.

Professor Thomas Rademacher, Founder at Emergex Vaccines, commented: *"We are pleased to have been awarded this grant that will allow us to contribute to the global fight against mosquito-borne infections and recognize that the UK government and its advisers see the potential of our innovative technology. Emergex is developing next-generation priming T cell adaptive vaccines, which cover a range of viral and intracellular bacteria including COVID-19, dengue, influenza, etc., are designed to deliver broad and long-lasting immunity by preventing infected cells from progressing to a productive infection."*

Sajid Javid, Secretary of State for Health and Social Care of the United Kingdom, said: *"I am delighted that these innovative projects – tackling serious and deadly diseases - will receive the funding they need to take their research to the next stage."*

Chikungunya (Primary and Chronic) virus, is a potentially severe mosquito-borne infection of the *Togaviridae* viral family, characterized by fever and joint pain, with a high public health burden of over 1 billion a year in reported cases in widespread endemic regions (the Americas, Europe, Asia, and Africa). It is an emerging pathogen of concern that poses a threat to temperate regions and has recently increased in severity of outbreaks. Already endemic to five continents, there is a looming risk that it will be transported to new regions. Currently there is no vaccine to prevent, or therapy to treat, Chikungunya patients.

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About Emergex

Emergex, a clinical-stage, privately-held biotechnology company headquartered in Abingdon, UK, with an operating subsidiary in Doylestown, Pennsylvania, USA, is tackling some of the world's most immediate health threats, including viral diseases such as dengue fever, COVID-19, Zika, Ebola, pandemic influenza, as well as serious intra-cellular bacterial infections, by pioneering the development of 100% synthetic Priming T cell Adaptive Vaccines that harness the natural immune response to prime T cells to destroy pathogen-infected cells.

Emergex is developing a pipeline of innovative Priming CD8+ T cell Adaptive Vaccine candidates, which have the potential to deliver rapid, broad (mutation-agnostic), and long-lasting (decades-long) immunity to reduce serious illness associated with infectious diseases. Emergex has a number of Phase I clinical trials underway, with the most advanced development programmes for COVID-19 and dengue vaccine candidates. Other programmes in development include vaccine candidates for universal (pandemic) influenza, hand foot and mouth disease, a hepatitis B therapeutic, and a yellow fever booster.

Emergex's Priming T cell Adaptive Vaccines use purely synthetic, non-biological compounds and a gold nanoparticle carrier system to deliver a carefully selected set of peptides intradermally via microneedle skin patch to promote the natural cellular immune response, priming T cells to recognise subsequent pathogens much like a natural infection would do, subclinically preventing acute or severe manifestation of the disease. The vaccine technology is designed to elicit a T cell response to highly conserved regions of the pathogen across viral strains, for which selective pressure for mutation is minimal, offering the potential for cross-reactive protective immune responses against families of viruses (such as *Flaviviridae*, providing protection against Zika and yellow fever).

Added benefits of Emergex's synthetic Priming T cell Adaptive Vaccine candidates include the potential for stability at ambient temperatures, which should avoid the need for, and resource limitations associated with the cold-chain and transportation to endemic regions.

Drawing on a rich scientific heritage and extensive international research, Emergex has developed collaborations in the US, EU, Singapore, and Brazil with leading vaccine research bodies, including George

Mason University in the US, the Institute of Molecular and Cell Biology (IMCB) of Singapore, and Brazil-based Bio-Manguinhos/Fiocruz

Find out more online at www.emergexvaccines.com.

Visit our LinkedIn page or Twitter account for live updates.

About the UK Vaccine Network

The Department for Health and Social Care (DHSC) is the UK Government department which is responsible for helping people to live more independent, healthier lives for longer. This investment is part of the UK Vaccine Network (UKVN). UKVN was established to provide funding to support the development of promising vaccines and vaccine technologies that will help combat infectious diseases that have epidemic potential in low and middle-income countries (LMICs). UKVN is a £120m UK Aid investment, which means all projects funded must support research primarily and directly for the benefit of people in low- and middle-income countries (LMICs).

Find out more online at www.gov.uk/government/groups/uk-vaccines-network