UNIVERSITY OF LIVERPOOL

Enterprise: Licensing & Ventures

FROM ZIKA TO BROADER GLOBAL HEALTH IMPACT: ADVANCING AN MVA-VECTORED VACCINE PLATFORM FOR ENDEMIC VIRAL THREATS

Introduction

Emerging and re-emerging viral threats, such as Zika, present urgent global health challenges, particularly in regions with limited access to effective vaccines. The University of Liverpool team, in collaboration with international partners, is advancing an **MVA-vectored vaccine platform** designed for rapid, scalable adaptation to endemic and pandemic viral threats. This platform builds on extensive expertise in vaccine innovation and translational research, providing a robust pathway from laboratory to clinical development.

Unmet Need: Zika

- No widely available or licensed vaccine for Zika.
- Significant morbidity linked to Zika infections, including congenital Zika syndrome.
- Rising risk of viral outbreaks due to climate change, urbanisation, and global travel.
- Critical need for affordable, rapid-response vaccines for resource-limited settings.

UoL Solution

- Dual Immune Activation: The MVA-vectored platform is engineered to drive both antibody responses and T cell responses.

- Structural proteins stimulate strong antibody responses, enabling viral neutralisation.
- Non-structural proteins, delivered with promoter and ubiquitin optimisation, drive robust T cell responses critical for long-term protection.
- Versatility: The platform can be rapidly adapted to encode antigens from a wide range of endemic and emerging viral pathogens, extending beyond Zika.
- TRL 7 Strong preclinical proof of concept and safety data package. The team have recently completed a Phase 1 clinical trial (August 2025).

Intellectual property

Patent covering the nucleic acid composition and application for treatment of Zika entered PCT in December 2024 (WO2025119932A1).

Team

UoL's multi-disciplinary team; Prof Neil French, Dr Krishanthi Subramanium, Dr Tom Blanchard and Prof Lance Turtle brings global expertise in vaccine development, clinical infectious diseases, and translational virology, with a proven track record in Zika, dengue, and emerging viral threats. Supported by UKHSA, NIHR Liverpool, Royal Liverpool Hospitals, and industry partners, the team combines world-leading research with strong clinical and commercial networks.

Next Steps

Looking for co-development opportunities to conduct an extended Phase 1 trial to measure effect of cross-reactivity from other flaviviruses.

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