



## Australia, US scientists team up on African swine fever vaccine

**EMBARGOED 6AM MELBOURNE TIME (AEDT) THURS 9 NOVEMBER 2023**

Scientists from Australia and the United States are teaming up to tackle one of animal science's biggest challenges: a safe and effective vaccine against African swine fever, a viral pandemic devastating the world's pig industries.

CSIRO, Australia's national science agency, is working with US biotech firm MBF Therapeutics to evaluate their novel DNA vaccine candidate for African swine fever.

While Australia has never had an outbreak of African swine fever, it has recently spread through Asia and is now found in Indonesia, Timor-Leste and Papua New Guinea. It's estimated a large-scale outbreak in Australia would cost our economy up to \$2 billion.

The scientists will evaluate the vaccine in the secure laboratories at CSIRO's Australian Centre for Disease Preparedness (ACDP), a high biocontainment facility in Geelong designed to safely enable research into the world's most dangerous diseases.

Dr David Williams, an African swine fever expert at ACDP, said despite the threat, scientists had not yet been able to develop a completely safe and effective vaccine.

"While first-generation vaccines have recently been approved for use in some parts of Asia, these are weakened live virus vaccines, which have potential to revert back to a disease-causing form and can cause side effects in sows and pigs with infections or other illnesses," Dr Williams said.

"CSIRO's Australian Centre for Disease Preparedness is one of the few labs in the world that can safely work with the virus. We'll be bringing all our diagnostic tools, reagents and research capability to this challenge, and learning from the experience for future research."

MBF Therapeutics CEO Thomas Tillett said the DNA vaccine platform is based on technology adapted from immunotherapeutic treatment of human cancer, and aims to eliminate pathogens as they enter the body.

"Dr Williams' and CSIRO's expertise in the field of African swine fever, combined with MBF Therapeutics' innovative T-Max Precision vaccine platform, provides an opportunity to work towards a truly safe and effective African swine fever vaccine," Mr Tillett said.

"MBF Therapeutics' ultimate goal is to create a vaccine that can be used safely in all stages of swine production, including sows, while preventing disease in individual animals and limiting transmission within the herd and environment."

The work is part of CSIRO's Immune Resilience Future Science Platform, a program which uses new and emerging technologies to accelerate a deeper understanding of the immune systems of both humans and animals.

#### **About African swine fever**

- A contagious viral disease, African swine fever can kill up to 100% of the pigs it infects and has recently spread throughout Asia.
- Overseas, pigs have been killed in their millions, impacting pork production and trade, and devastating pork industries and farmers' incomes. It is thought to be the worst livestock pandemic in history.
- Australia has never had an outbreak of African swine fever. An outbreak here would have significant impact on pig health and production, with wider economic impacts including those caused by a loss of access to overseas markets for our pork products.
- It has been estimated that a small-scale outbreak in domestic pigs in Australia followed by eradication of the disease would cost between \$667 million to \$800 million, while a large-scale outbreak would cost \$1.5 to \$2 billion.
- The virus does not pass to humans, and affected pork is safe for human consumption.

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#### **About MBF Therapeutics**

US-based MBF Therapeutics has developed and patented an innovative, proprietary T-Max Precision™ DNA vaccine platform to deliver vaccines mucosally that provide safe, durable, broad cross-protection against diseases of concern to livestock and poultry, with significant translational opportunities in human health. T-Max vaccines elicit precise and robust T cell-mediated effector and memory immune responses in mucosal tissues that rapidly clear viruses to limit disease to the site of infection, block spread in the body, and prevent transmission from the infected animal to other in-contact animals. For more information about MBF Therapeutics, visit [www.mbftherapeutics.com](http://www.mbftherapeutics.com).