



FOR IMMEDIATE RELEASE
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Roslin Technologies signs collaboration agreement to develop *E. coli* O157:H7 vaccine

Roslin Technologies has signed an agreement with animal sciences research establishments Moredun Research Institute, Scotland's Rural College and the Roslin Institute at the University of Edinburgh, to fund the commercial development of an *E. coli* O157:H7 vaccine for cattle to prevent life-threatening illnesses in humans.

The project team has been led by Dr Simon Wheeler COO of Roslin Technologies, with significant input from the Principal Investigators Professor David Gally from Roslin Institute and Dr Tom McNeilly from Moredun Research Institute.

Simon Wheeler says: "Drs David Gally and Tom McNeilly performed extensive initial research on the vaccine. They've been doing the fundamental research necessary to really understand whether the vaccine works and the essential science behind it.

"Now, that we're progressing into the vaccine's commercial development phase, they are an integral part of the project team and will be deeply involved at every stage as we move forward."

E. coli O157:H7 is a pathogenic bacterium of cattle which can cause life-threatening foodborne illness in humans through the consumption of contaminated products such as dairy products and meat. Despite efforts to reduce contamination of food, *E. coli* O157:H7 causes 1-10 cases per 100,000 people, with certain countries having clusters of more virulent strains (UK, USA, Argentina, and Sweden).

The experimental vaccine has been developed to limit *E. coli* O157:H7 shedding from, and transmission between, cattle. Although the bacteria doesn't harm the cattle, farmers will be encouraged to vaccinate animals against infection and this new vaccine should enable this to be done cost-effectively. Early results have indicated that the vaccine may be more effective than other previous attempts and have a greater impact in reducing human exposure and infection.

Under the new agreement, Roslin Technologies will perform a two-step validation trial from May – September 2020 in Nebraska, USA. The field trials will examine super-shedding in cattle (the passing of large volumes of bacteria in faeces) to discover whether the vaccine prevents shedding of the bacteria and is viable for commercial use.

Tom McNeilly says: “In order to be granted a licence, you have to show positive results from large scale trials, and particularly for this vaccine, prove it works in the US feedlot system. *E. coli* O157:H7 is prevalent in the US, as well as parts of South America and Europe, including the UK.

“The biggest market for this vaccine is in the USA and South America. To be commercially viable one has to show the vaccine works in their systems. We have a wonderful collaboration with the USDA and they’ve agreed to run a field trial in Nebraska with the help of Roslin Technologies.”

Throughout the trials, David and Tom will advise on the design and execution of field trials, monitoring the cattle, how to administer the vaccine and gathering data.

David Gally says: “I’m delighted that Roslin Technologies has invested in the vaccine as it allows the chance for what’s been over a decade of work, investment and research to go to the next stage.

“It means we can build collaboration with US partners to understand how the vaccine works and hopefully provide further commercial development and investment opportunities for Roslin Technologies and other commercial companies in this space.”

The background research was in part funded by UK agencies DEFRA (Department for Environment, Food & Rural Affairs), BBSRC (Biotechnology and Biological Sciences Research Council, FSA/FSS (Food Standards Agency/Food Standards Scotland), and other commercial partners; this valuable contribution is recognised by the project team.

Professor Jacqui Matthews, Chief Technology Officer at Roslin Technologies, has recently taken over leadership of the vaccine project and will be directing the efforts further towards commercialisation the vaccine by proving efficacy in field trials.

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Editor's notes:

About Roslin Technologies

Roslin Technologies is a technology commercialisation company based at Easter Bush Campus, at the centre of the largest concentration of animal science expertise in Europe. The company was created to develop commercial opportunities from the research, know-how, capabilities and intellectual property of The Roslin Institute and The Royal (Dick) School of Veterinary Studies.

Roslin Technologies develop and supply products and services to industry, as well as providing opportunities for investors looking to capitalise on the growing demand for food and agricultural products. For additional information, visit www.roslintech.com.

About the Roslin Institute

The Roslin Institute is a world-leading institute for animal science research. It receives strategic investment funding from the Biotechnology and Biological Sciences Research Council. It is located on the Easter Bush Campus with the Royal (Dick) School of Veterinary Studies, and is part of the College of Medicine and Veterinary Medicine, University of Edinburgh. (<https://www.ed.ac.uk/roslin>)

About Moredun Research Institute

Moredun Research Institute conducts world class scientific research on the infectious diseases of livestock, caused by important viruses, bacteria and parasites. Working closely with farmers and vets Moredun Research Institute strives to improve livestock health and support sustainable agriculture through the development of diagnostic tests and the creation of novel vaccines to combat infectious disease. (www.moredun.org.uk/research)