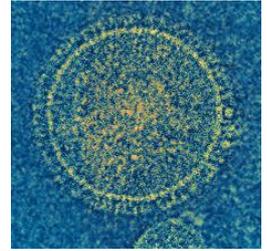


A novel target and therapeutic leads for the treatment of bovine and human RSV

Warwick Ventures has available for licence a patent application covering an entirely novel conserved host cell protein target for the treatment of bovine and human RSV. Promising proof-of-concept studies have demonstrated significant anti-viral activity with a number of chemical lead compounds which are suitable for entry into a drug discovery program.



BACKGROUND

Pneumoviruses including respiratory syncytial viruses of humans (HRSV), cattle (BRSV), sheep and goats, and pneumonia virus of mice (PVM) are responsible for severe acute respiratory infections in a range of hosts.

BRSV is a global issue for the animal health industry being the most important viral cause of respiratory disease in young beef and dairy cattle. The disease is endemic worldwide. In the UK alone up to 1.9 million cattle, with associated costs of £54 million and 160,000 calves with market value of £99 million are affected each year (Defra). In the US, annual losses from Bovine Respiratory Disease (BRD) of which BRSV is the major contributor are estimated at over US\$1 billion despite widespread vaccination.

Currently BRSV is treated by vaccination followed by post exposure treatment with antibiotics and non-steroidal anti-inflammatory drugs.

Vaccines for BRD, which includes the BRSV vaccines, form an estimated total market of US\$350 million and is an important segment of the total \$5.9 billion veterinary vaccines market (2011, Informa). However, the vaccines have limited effectiveness and only elicit a short duration of immunity.

Aside from BRSV, the closely related HRSV is the single most important cause of severe respiratory illness in infants and young children with an estimated 64 million cases and 160,000 deaths worldwide every year. No vaccine is available for HRSV and palivizumab is the only prophylactic treatment approved for high risk infants and its cost limits its use in many parts of the world. Palivizumab was the 7th bestselling drug for AstraZeneca in 2012 with sales of USD 1.038Bn.

INVENTION

Scientists at the University of Warwick have identified a host protein which is conserved across species and which plays a fundamental role in translational processes required for the replication

of RSV. The protein has also been shown to be essential for hepatitis C virus (HCV) and human immunodeficiency virus (HIV) replication. The group has extensive proof of concept data for RSV which can be accessed under a CDA.

The targeting of this protein provides an opportunity for the development of a suite of anti-viral therapeutics and in fact the targeting of a host protein that is critical for virus replication represents a new approach to antiviral development. Furthermore by targeting the host protein one can develop therapies which eliminate the problem of the development of drug resistance.

BENEFITS AND USES

Benefits of the technology include:

- ❖ A unique and novel host protein target against human and bovine RSV
- ❖ The possibility of using this approach against HCV and HIV
- ❖ The possibility of developing novel therapeutics for which it is impossible to develop resistance

Uses of the technology include:

- ❖ The design of small molecule drugs for HRSV and BRV, as well as for HCV and HIV

PATENT & PUBLICATION

This technology is the subject of a patent application: "ASSAY AND TREATMENT" GB1404372.3 filed 12th March 2014

CONTACT

The patent application and associated know-how is available for licence through Warwick Ventures Ltd.

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