

What's new

GENE SILENCING MAY STOP DISEASE



Peter French

SYDNEY-BASED Benitec Biopharma Limited (ASX Code: BTL) is to launch clinical trials in Europe and the US of astonishing gene silencing technology that has the potential to turn off cancer, hepatitis C

and other critical diseases such as HIV/AIDS.

Benitec CEO Dr Peter French said the company, which was the developer and patent holder of the technology, was commencing the trial after positive proof of principle data obtained in collaboration with the Children's Cancer Institute Australia at the University of New South Wales that was announced in April.

Explaining the work, Dr French said while much work remains, there were "strong indicators" that the technology could have strong and positive impacts for treatments across several diseases, possibly with improvements occurring after a single treatment.

"It is a method/technology to silence or turn off any gene for the long term. It works by utilising the RNA (ribonucleic acid) interference system in every cell. Our technology called ddrRNAi activates this system by delivering a small piece of DNA to the target tissue using a specific delivery vehicle," he said.

"Once the DNA gets into the cell's nucleus, it begins to make short lengths of double stranded RNA, whose sequence is an exact match for

secessions of the target gene.

"Through cellular processing the double stranded RNA molecules inactivate the target gene. The delivered piece of DNA continues to produce the silencing for the life time of the cell, so there is no need to re-administer the therapeutic," Dr French said.

First discovered in plants in the late 1990s by Dr Mick Graham a CSIRO scientist, Dr French said the first application in humans of ddrRNAi was administered to HIV/AIDS lymphoma patients in 2008.

"This demonstrated the safety and long-lasting nature of the technology. A second clinical trial utilising a form of the technology in advanced stage cancer patients was published last year. Not only was it safe but importantly survival was significantly improved in the patients.

"One of Benitec Biopharma's licensees, Calimmune, is about to commence a clinical trial utilising the technology in HIV/AIDS patients in the US, and we anticipate bringing our own program in hepatitis C patients to the clinic within a few months," Dr French said.

He said while it was still early days, potentially the technology could transform the lives of many seriously ill patients.

"The technology has the potential to switch off any gene that is associated with or causes a disease. So this includes viral genes such as HIV, hepatitis B and C, mutant human genes such as those known to cause muscular dystrophy or genes associated with cancer cell resistance to chemotherapy.

"Any disease that is chronic and life threatening that has one or two genes strongly associated with it are targets for this technology," he said.

Dr French said the technology was expected to present few contra-indications.

"Because the sequence of the dsRNS, that can silence the gene is very short, provided it is carefully selected for cross reactions with normal human genes, the specificity of the technology should minimise any unexpected adverse effects. Commercialisation is expected to be with a big pharma after successful phase II clinical trials," Dr French said.

Besides HIV/AIDS, the technology is also licensed to companies for Huntington's disease and Retinitis Pigmentosa. In addition it is also licensed to Sigma-Aldrich for use in research.

For more information contact: www.benitec.com.



WESTERN HEALTH PROTECTS DATA

WESTERN Health, the major public provider of acute health services throughout Western Metropolitan Melbourne, is running innovative data replication software solutions to improve its virtual infrastructure data protection, enable fast and reliable back-up capabilities and to provide effective disaster recovery options.

Cameron McBride, Manager Systems and Software Solutions at Western Health said deploying Veeam Software's Backup & Replication 6.5 improved back-up data processes.

"Our previous back-up solution required restarts

of an entire host, even if a fault was within a single VM, causing that host to miss that week's back-up window – which clearly presented significant risks. We chose Veeam because it is built specifically for virtualised environments and because it provides fast, flexible and reliable recovery of virtualised applications and data," he said.

Western Health employs approximately 6,000 staff across three acute care hospitals, two aged

care facilities and a day hospital facility. As the organisation operates 24 hours a day, seven days a week, high availability of information can be critical to patient care.

Limitations of its previous back-up tool affected efficient management of the organisation's IT environment, causing unnecessary restarts of some systems when there were upgrades.

For more information contact: www.veeam.com



Cameron McBride