

MEDIA RELEASE

10 October 2024

Grant to advance safer and more precise gene therapy

Centenary Institute researcher Dr Alex Cole has been awarded a \$100,000 Ramaciotti Health Investment Grant to support his research into improving the safety and precision of gene therapy treatments.

Dr Cole's work is focused on developing a 'humanised' and 'tunable' gene control system that offers more precise control over therapeutic protein production. This new approach aims to enhance the overall effectiveness of gene therapies, making them safer and more adaptable for a broader range of patients.

Gene therapy, which modifies or replaces faulty genes to help the body produce essential proteins, holds immense potential for treating and preventing a wide range of diseases caused by genetic abnormalities. Despite its promise, current gene therapies face significant challenges, particularly in controlling the amount of therapeutic protein produced.

“Too much or too little therapeutic protein can affect how well the treatment works over time, and currently, there aren't good ways of controlling the amount produced,” said Dr Cole from the Centenary Institute's Centre for Biomedical AI.

Dr Cole's research aims to tackle these issues by 'humanising' the gene control system with a modified human protein. This seeks to reduce the risk of immune reactions and enhance the safety of gene therapies for long-term use. Additionally, the system will be engineered so that it provides 'tunable' control of therapeutic protein levels throughout the treatment process.

“Our goal is to make gene therapy a safer and more effective option for individuals with genetic issues, ultimately improving lives,” said Dr Cole.

“By minimizing immune reactions and improving control mechanisms with this innovative new approach, we hope to unlock the full potential of gene therapy for patients across a variety of genetic conditions.”

Ramaciotti Health Investment Grants are awarded by Perpetual, Trustee of the Clive and Vera Ramaciotti Foundations, on the recommendation of a dedicated Scientific Advisory Committee. The grants support health or medical research that has the potential path to clinical application within five years.

[ENDS]

Images:

Dr Alex Cole (x3)

http://drive.google.com/file/d/1gqiUAaGCrv-zA3r-oRu0BkmWVL_HmGaw/view?usp=sharing

http://drive.google.com/file/d/10_pQKwjIFW4JAsgB7m1KTW0XArIWiz1e/view?usp=sharing

<http://drive.google.com/file/d/10ZljfyMR17wVR-qLGvC2Ow15PSbw-D0e/view?usp=sharing>

For all media and interview enquiries, please contact

Tony Crawshaw, Media and Communications Manager, Centenary Institute on 0402 770 403 or email: t.crawshaw@centenary.org.au

About the Centenary Institute

The Centenary Institute is a world-leading independent medical research institute, closely affiliated to the University of Sydney and the Royal Prince Alfred Hospital. Our research spans the critical areas of cancer, cardiovascular disease, rare diseases, inflammation, infectious diseases, healthy ageing and biomedical AI. Our strength lies in uncovering disease mechanisms and applying this knowledge to improve diagnostics and treatments for patients.

For more information about the Centenary Institute, visit centenary.org.au