



Media Statement

7.10.19

LEI and PYC Therapeutics (ASX: PYC) enter commercial partnership to develop drugs for leading form of eye disease.

Lions Eye Institute (LEI) and PYC Therapeutics have entered into a commercial collaboration agreement to develop drugs for a leading cause of blinding eye disease. The commercial partnership will take the form of a special purpose vehicle, Vision Pharma Pty Ltd, in which LEI and PYC have equity interests based on their contributions of IP and funding.

The Vision Pharma lead program combines PYC's best-in-class delivery technology with LEI's novel RNA therapies to create a competitively differentiated drug to treat a leading cause of childhood blindness – Retinitis Pigmentosa. Vision Pharma intends to commence Investigational New Drug (IND)-enabling studies for this lead program in the first half of 2020. Successful IND-enabling studies will culminate in approval for testing in humans.

This exciting collaboration combines a unique set of world leading technologies originating in Perth, Western Australia.

“The formation of Vision Pharma in WA is the culmination of combining decades of research into splice therapy (led by Sue Fletcher, Co-inventor), cell penetrating peptides (through PYC), data from the Australian Inherited Retinal Diseases Registry (established in the 1980s), and more recently developed local expertise in stem cell retinal disease modelling (LEI)” said Dr Fred K. Chen, co-inventor of the lead drug and head of LEI's Ocular Tissue Engineering Laboratory.

This development will enable a potential drug to be delivered from discovery right through to the clinic, all driven from Perth, WA. *“We look forward to the clinical development of therapeutics for Retinitis Pigmentosa and other degenerative retinal diseases”* commented Professor Sue Fletcher, Chief of Research and Development at PYC Therapeutics and global leader in RNA Therapeutics.

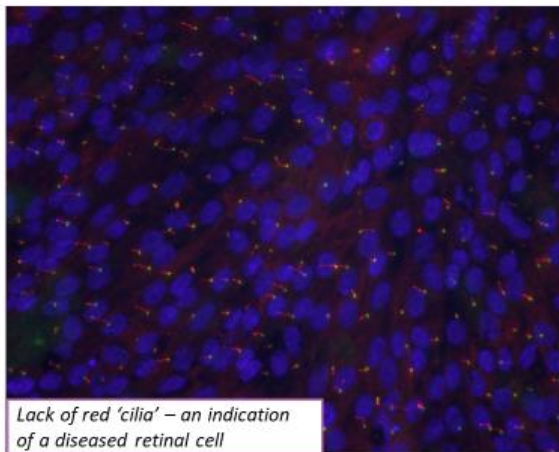
Through this collaboration Vision Pharma's lead drug candidate has already shown preliminary evidence that it can reverse the effects of Retinitis Pigmentosa in human cells. Figure 1 (below) illustrates the effectiveness of combining PYC's delivery technology (a Cell-Penetrating Peptide, or CPP) with Vision Pharma's molecule (an Antisense Oligonucleotide, or ASO). Healthy retinal cells express the red cilia, whilst diseased cells do not. The treatment significantly increases the expression of these red cilia by the diseased patient cells, a key functional readout for drugs intending to rescue our target form of Retinitis Pigmentosa. The photographs below clearly show that joining Vision Pharma's ASO to PYC's CPP increases both the amount of cells expressing cilia, and the length of these cilia above the naked ASO.

On the potential of this exciting collaboration, LEI Managing Director Bill Morgan said “LEI is proud to see one of its research developments now entering preclinical trials to treat the commonest form of Retinitis Pigmentosa, a previously untreatable blinding condition. Prof Fred Chen and Prof Sue Fletcher have been working on their genetic therapy and are partnering with PYC, using their transporter protein to deliver this novel therapy directly to the sick retinal cells. We are very excited about the possibility of being able to cure this form of blindness.”

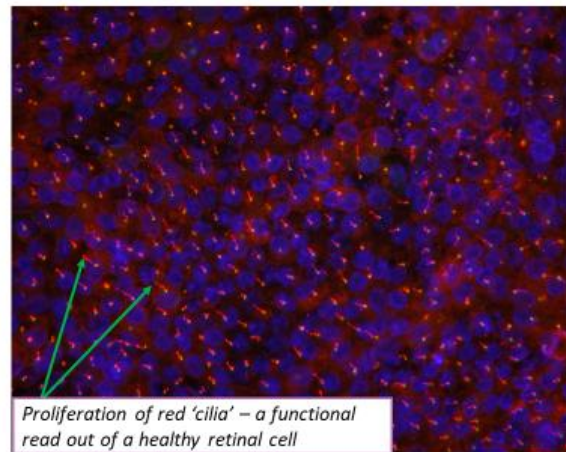
PYC Chairman Alan Tribe commented “I am excited by the prospects for this new partnership. It brings together the PYC drug delivery system and an elegant drug to treat the leading cause of childhood blindness. Importantly it also brings together world class expertise in drug design, delivery and development as well as the treatment of eye diseases. The team that has been created will be capable of achieving much.”

Figure 1. Human RPE cells from patients (diseased) treated with ‘naked’ ASO vs. PYC’s CPP-ASO¹

A. ‘naked’ ASO



B. CPP-ASO



Note: this experiment has not been repeated and is therefore should not be treated as a material outcome

1. Human derived retinal epithelium from a patient with a mutation in gene causing Retinitis Pigmentosa. 5 uM treated for 5 days

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About PYC Therapeutics

Phylogica Limited trading as PYC Therapeutics (ASX: PYC) is a drug development company solving a major challenge in the development of a revolutionary new class of drugs – delivering large drugs into cells. Cell Penetrating Peptides (CPPs) can overcome ‘the delivery challenge’ and provide access for a wide range of potent and precise drug ‘cargoes’ to the ‘undruggable genome’ – the highest value drug targets that exist inside cells. PYC Therapeutics is using its CPP platform to develop a pipeline of novel therapies with an initial focus on inherited retinal diseases.

About Lions Eye Institute

The Lions Eye Institute Ltd (LEI) is a not-for-profit centre of excellence that combines world class scientific research into the prevention of blindness with the highest level of eye care delivery. It incorporates one of Australia’s largest ophthalmic practices, including a Day Surgery Unit and a Laser Vision Centre. The LEI also houses the Lions Eye Bank, Lions Optics, Lions Outback Vision and the Lions Save-Sight Foundation WA.