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Media Statement

WA TEAM EYES NEW TREATMENTS FOR DIABETIC RETINOPATHY

Ahead of National Diabetes Week (July 12-18), WA researchers have revealed they're stepping up the search for better ways to treat and prevent the eye disease diabetic retinopathy after developing a new avenue for studying the devastating condition.

A project funded by a Diabetes Research WA top-up scholarship has allowed a team at **Perth's Centre for Diabetes Research** to create a **groundbreaking mouse model** for diabetic retinopathy (DR), a major cause of blindness globally among working-age adults.

The **findings** have just been published in the international Journal of Investigative Ophthalmology & Visual Science.

Professor Grant Morahan, who oversaw the study, said the new mouse model would pave the way for researchers to discover the genetic causes of DR, **which occurs when** tiny blood vessels inside the retina at the back of the eye are damaged as a result of either type 1 or type 2 diabetes.

"Using the world-leading WA-made Gene Mine resource we were able to develop a mouse model of DR that mirrors a range of symptoms similar to human DR," said Professor Morahan.

"This discovery opens many new doors, allowing us to screen existing drugs and compounds, including those used in traditional Chinese medicine, to see if they can be used to treat or prevent the disease, as well as paving the way for us to find protective genes to develop preventative therapies and diagnostic tests to identify people most at risk of DR."

Professor Morahan said fast-tracking new treatments and prevention strategies was incredibly important because the risk of DR complications could be reduced by maintaining good blood glucose levels and blood pressure and undergoing regular screening, but could not yet be eliminated.

The new mouse model showed DR lesions appearing as early as seven days after diabetes onset, and these worsened so, at 21 days, their retinas displayed late DR features. To identify the genes that may play an important role in the development and progression of DR, the team found a role of several genes (such as Crygba1, RGR, TTR and RPE65) in DR.

The study was conducted by PhD student Lakshini Weerasekera. Dr Lois Balmer also helped guide and perform the project.

Diabetes Research WA executive director Sherl Westlund urged people to consider becoming a "regular giver" – a commitment to give a certain amount of money to the charity each month.

"People can either do this personally or through their workplace – and there's a huge upside to this type of support in that there is no middleman and no need for organisations to spend money on campaigns to raise money, meaning 100% of the contribution goes to the charity," she said.

"We need research because, although we have much better ways of treating diabetes, its impact on the health budget may soon overwhelm us; it's estimated 275 Australians develop diabetes every day which is huge; that's enough to fill the MCG in 12 months."

Visit www.diabetesresearchwa.com.au for further details.

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