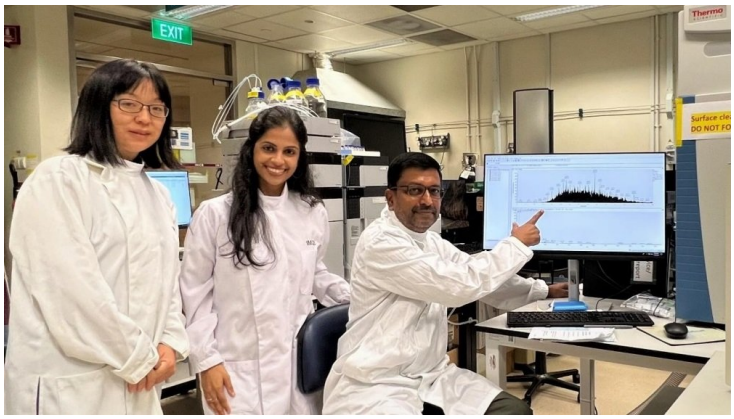
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ASIA EDITION

Singapore identifies new therapeutic target for treating diabetic eye disease

December 23, 2022 | News | By Hithaishi C Bhaskar

Opening up a new path for developing effective therapeutics for patients with Diabetic Retinopathy



(Left to Right) The core scientific research team: Associate Professor Wang Xiaomeng from the Cardiovascular and Metabolic Disorders Programme and Centre for Vision Research at Duke-NUS Medical School, Research Scientist Dr Asfa Alli Shaik and Senior Principal Investigator Dr Jayantha Gunaratne from IMCB

Singapore researchers have discovered a novel therapeutic target named ADAM10 that could be used to treat patients with Diabetic Retinopathy (DR), a condition which leads to blindness induced by prolonged diabetes.

Abnormal blood vessel formation in the eyes of diabetic patients is a common phenomenon for DR which could ultimately result in vision loss. The study, published in the journal Theranostics, demonstrated that by restoring the function of ADAM10, a major shedding protein, it was possible in preclinical models to control the abnormal formation of blood vessels, offering an attractive therapeutic target to treat DR.

A collaborative effort involving researchers and clinicians from A*STAR's Institute of Molecular and Cell Biology (IMCB), Duke-NUS Medical School, SingHealth, Singapore Eye Research Institute (SERI) and Singapore National Eye Centre (SNEC), the research team is exploring the potential of ADAM10 in various aspects of angiogenesis and how it may be translated into beneficial solutions for patients.

The research team, led by Dr Jayantha Gunaratne, Senior Principal Investigator at IMCB, show that eye fluids from DR patients displayed distinct protein patterns compared to the control cohort, implying that the molecular composition of eye fluids is reflective of the health status of the eye. By interrogating these altered profiles from DR patients, the team discovered impaired protein shedding by ADAM10 as a prominent disease feature of DR.

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