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Media Statement

WA RESEARCHERS ADVANCE NEW DIABESITY PEPTIDE THERAPY

West Australian researchers have pinpointed five promising leads that could be used to create a new peptide therapy to tackle the growing health impacts of obesity and type 2 diabetes.

Around 2 in 3 Australian adults and 1 in 4 Australian children are already classified as overweight or obese and 288 people – or one person every five minutes - develop diabetes every day nationally.

Funded by grants given out by Diabetes Research WA, Dr Vance Matthews and his team have discovered in preclinical trials that five small peptides derived from the protein TNFSF14 can reduce obesity and problems with glucose homeostasis.

The work has just been published in the International Journal of Molecular Sciences.

“Obesity in adults can result in adverse metabolic conditions with worrying health impacts and there’s a massive global need for new ways to manage this,” said Dr Matthews.

“Our work has focused on five promising peptides and we have now confirmed one of those reduced high fat diet-induced glucose intolerance, insulin resistance, abnormal blood insulin levels and non-alcoholic fatty liver disease, so this new technology for type 2 diabetes care and management is very exciting.”

Dr Matthews, from the UWA School of Biomedical Sciences - Dobney Hypertension Centre, said the group was keen to further test all five peptides.

“We are very keen to begin further animal trials into this TNFSF14 peptide therapy because it reduced fasting insulin levels in obese high fat diet fed mice back to those of lean chow fed mice,” he explained.

“TNFSF14 is fighting the effects of metabolic syndrome when it appears so we’re harnessing the power of this natural protein which circulates in the body.”

The team’s previous research also showed that TNFSF14 treatment can directly promote insulin secretion from pancreatic beta cells so it may also give rise to new ways to tackle type 1 diabetes in cases where the patient still has beta cells left.

Diabetes Research WA executive director Sherl Westlund said: “We are hopeful this important work we have supported can progress from here to pave the way for new diabetes medications that can improve health.”

The paper can be viewed at

https://www.mdpi.com/14220067/22/19/10647?fbclid=IwAR2HeVxKnN2QDFwniSH3sM5IHckl7Hai9axB_yD4RTIV5IvdLCcePG3wikQ

Diabetes Research WA, based at Royal Perth Hospital, was established in 1976 to stimulate research into diabetes in Western Australia -- diabetesresearchwa.com.au

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