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Singapore: Australia's Cellmid has completed its first in-life diabetic nephropathy study with anti-midkine antibodies (MK-Ab) in a mouse model of the disease. Two of Cellmid's proprietary MK-Ab's were tested. Both antibodies reduced kidney damage significantly, as assessed by functional and histological analysis, with kidney structure largely preserved in the treated animals.

This study provides important new information, as it is the first time the company has used its own MK-Ab's in a therapeutic setting in a kidney disease model.

The current study using Cellmid's MK-Ab's was conducted by scientists at the Centre for Transplantation and Renal Research (CTRR), based at the Westmead Millennium Institute and University of Sydney, Westmead Hospital, using an Adriamycin (AN)-induced mouse model of nephropathy. In this model, a single AN injection leads to kidney damage reminiscent of that seen in human diabetic nephropathy.

Diabetic nephropathy is the leading cause of chronic kidney disease globally. It is also one of the most significant long-term complications in terms of morbidity and mortality for patients with diabetes. In the USA alone, diabetes affects 26 million people, and the US Centre for Disease Control (CDC) estimates that as many as one in three adults could have diabetes by 2050 if current trends continue.

Currently, diabetic nephropathy is managed by keeping glucose levels under control, however many of the patients develop end stage renal disease (ESRD). It is estimated that 30-40% of all ESRD is caused by diabetic nephropathy.

ESRD requires the traumatic and costly interventions of kidney dialysis or transplant. A treatment that slowed or halted the progression of diabetic nephropathy into full-blown ESRD would have enormous benefits for the quality of life of diabetes sufferers in addition to reducing the massive costs associated with the treatment of ESRD.