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ASIA EDITION

Cellmid midkine antibodies reduce kidney damage

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

Renal histological assessment showed that glomerular sclerosis was reduced from 48 percent in untreated animals to below 20 percent in both MK-Ab treated groups ($p<0.01$). Interstitial volume was also significantly reduced, from 35 percent in untreated animals to 12 percent in both antibody groups ($p<0.01$). MK-Ab treatment also maintained tubular cell height; untreated animals had mean cell heights below two micro meters, as compared to four micro meters for treated animals ($p<0.05$).

Kidney function was also preserved, with MK-Ab treated animals showing reduced protein leakage into the urine compared to untreated controls. Protein casts in the kidney, indicating damage, were also significantly reduced in antibody treated animals. Importantly, the MK-Ab treated animals showed healthy weight gain and reduced mortality compared to untreated controls; only 6.3 percent of treated animals died before the end of the study, as compared to 25 percent of the untreated animals.

The current study was conducted by scientists at the Center 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 led to kidney damage reminiscent of that seen in human diabetic nephropathy.

The results of this diabetic nephropathy study present a promising start to the company's review of the therapeutic potential of its anti-MK antibody portfolio. It will contribute to the decision to select a lead disease indication Cellmid can then take into the clinic.