



## Anti-Proteinuric Effect of Sulodexide in Adriamycin-Induced Nephropathy Rats

Zhibin CHEN<sup>1</sup>, Lihe ZHU<sup>2</sup>, Yangming ZHEN<sup>3</sup>, Dan LI<sup>1</sup>,  
Busheng TANG<sup>1</sup>, Wenhai CHEN<sup>1</sup> & Lufeng HU<sup>4</sup>

<sup>1</sup> *The Affiliated Yueqing Hospital of Wenzhou Medical College,  
Qingyuan Road 338, Yuecheng town, Yueqing City, 325600, China*

<sup>2</sup> *Department of Pathology of Wenzhou Hospital of Integrated Traditional  
and Western Medicine, Wenzhou, 325000, China*

<sup>3</sup> *Department of Respiration of the Second Affiliated Hospital,  
Yuying Children's Hospital of Wenzhou Medical College, Wenzhou, 325000, China*

<sup>4</sup> *Department of Pharmacy of the First Affiliated Hospital of Wenzhou Medical College,  
Lucheng District, Wenzhou, 325000, China*

**SUMMARY.** This study investigated the anti-proteinuric effect of sulodexide in rats with adriamycin (ADR) nephropathy. A total of 40 healthy male Sprague-Dawley (SD) rats were randomly assigned to four groups: normal control group (Control-group), ADR control group (ADR-group), sulodexide treatment group (SUL-group), and losartan treatment group (LOS-group). The ADR-induced rat models were established by injecting two different doses of ADR (4 and 3.5 mg/kg) into the caudal vein of rat for two consecutive weeks. After that, SUL-group and LOS-group were respectively treated with sulodexide (10 mg/kg/day) and losartan (10 mg/kg/day) for an additional 4 weeks period. Samples of 24-hour urine were harvested at 3, 4, 5, and 6 weeks after the model establishment. The pathological change in renal tissues was observed by light microscopy, the function of liver and kidney were assayed at week 6th. The results showed that the urinary excretion of protein progressively increased in ADR-group, and accompanied with severe nephrotic syndrome such as massive albuminuria, proteinuria, and hyperlipidemia. Sulodexide effectively reduced the 24-hour urinary protein excretion of ADR-induced nephropathy rats, preventing focal segmental glomerulosclerosis. There was no significant difference between LOS-group and SUL-group for reducing urinary protein excretion ( $P < 0.05$ ). Sulodexide alleviated ADR-induced nephrotoxicity as good as losartan in a short period of treatment.

**KEY WORDS:** Adriamycin nephropathy, Losartan, Rat, Sulodexide.

\* Author to whom correspondence should be addressed. *E-mail:* hulufeng79@sina.com