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## **Mangiferin prevents diabetic nephropathy progression in streptozotocin-induced diabetic rats.**

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**Abstract:** Diabetic nephropathy is one of the most severe diabetic microangiopathies and accounting for approximately one-third of all cases of end-stage renal disease. In the present study, we investigated the effect of mangiferin, a polyphenol from *Anemarrhena asphodeloides* Bge. or *Mangifera indica* L., on diabetic nephropathy and the possible mechanisms by using a developed diabetic nephropathy rat model and cultured rat mesangial cells. Serum-advanced glycation end-products level, malonaldehyde level, sorbitol concentration of red blood cell, 24 h albuminuria excretion were significantly decreased, whereas activity of serum superoxide dismutase and glutathione peroxidase and creatinine clearance rate were increased by mangiferin. Blood glucose level remained unaffected. Mangiferin significantly inhibited glomerular extracellular matrix expansion and accumulation and transforming growth factor-beta 1 overexpression in glomeruli of diabetic nephropathy rats. Moreover, mangiferin was observed to inhibit proliferation of mesangial cells induced by high glucose and the overexpression of collagen type IV of mesangial cells induced by advanced glycation end products. In summary, mangiferin could significantly prevent progression of diabetic nephropathy and improve renal function.