Synthetic vitamin D receptor ligands reduce murine kidney fibrosis

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Vitamin D deficiency has been associated with kidney disease including fibrosis. Some studies have even suggested that treatment with vitamin D or vitamin D analogs can reduce renal fibrosis; however, the pathways targeted by vitamin D therapy are not completely understood.

In this issue of the *Journal of Clinical Investigation*, Junn Yanagisawa and colleagues at the University of Tsukuba found that vitamin D binding to its receptor inhibited the TGF-?/SMAD signaling pathway and prevented renal fibrosis in mice.

The authors then generated a synthetic ligand of the vitamin D receptor that, like vitamin D, reduced renal fibrosis; however, unlike vitamin D, this synthetic ligand did not promote hypercalcemia.

In the accompanying commentary Joseph Bonventre suggests that synthetic ligands of the vitamin D receptor should be further studied as therapeutics for patients with fibrotic diseases.

More information: A nonclassical vitamin D receptor pathway suppresses renal fibrosis, *J Clin Invest*. DOI: 10.1172/JCI67804
Antifibrotic vitamin D analogs, *J Clin Invest*. 2013;123(11):4570–4573. DOI: 10.1172/JCI72748

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