SIGNIFICANCE STATEMENT

CKD displays a number of features of accelerated senescence. Specifically, tubular cell senescence is strongly associated with progression of renal fibrosis. However, the underlying mechanisms of tubular senescence are poorly understood. This study examines the potential role of Wnt9a in tubular cell senescence and renal fibrosis in human biopsy material and in experimental models. The authors found that Wnt9a knockdown *in vivo* with shRNA suppressed fibrosis, suggesting a decisive role for this pathway in tubular senescence and fibroblast activation.