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Researchers identify potential new targets for treating kidney disease

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Chronic diseases such as diabetes and hypertension cause injury to the kidneys, which can lead to scarring and the development of chronic kidney disease. By identifying proteins important to this scarring process, researchers now point to a new strategy for possibly preventing kidney failure and the need for dialysis or transplantation in many patients. The findings appear in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN).

When Benjamin Humphreys MD, PhD (Washington University School of Medicine) and his colleagues examined the complex process of scarring, or fibrosis, in failing kidneys, they discovered that proteins in the Wnt signaling pathway play a critical role in the crosstalk between cells as scarring occurs. Wnt proteins are important in development but are normally turned off in healthy kidneys. When the researchers boosted expression of Wnt proteins in the kidneys of healthy mice, the organs developed fibrosis. "This means that drugs targeting Wnts might be an effective strategy for humans with chronic kidney disease," said Dr. Humphreys.

The investigators were surprised to find that Wnt proteins cause kidney fibrosis without inflammation. "In the models we typically use to study in the laboratory, and also in human fibrosis, there is always some degree of inflammation, so to not find any was unexpected," explained Dr. Humphreys. "We conclude that inflammation is not required for the development of kidney fibrosis, and this suggests that purely anti-inflammatory drugs may not be as effective at treating chronic kidney

disease.

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