## Title: The Oncogenic Role of COL23A1 in Clear Cell Renal Cell Carcinoma

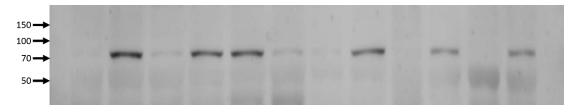
Fujiang Xu <sup>1\*</sup>, Kun Chang<sup>2\*</sup>, Jian Ma<sup>2</sup>, Yuanyuan Qu<sup>2</sup>, Huyang Xie<sup>2</sup>, Bo Dai<sup>2</sup>, Hualei Gan<sup>3</sup>, Hailiang Zhang<sup>2</sup>, Guohai Shi<sup>2</sup>, Yao Zhu<sup>2</sup>, Yiping Zhu<sup>2</sup> Yijun Shen<sup>2</sup>, Dingwei Ye<sup>4</sup>

- <sup>1</sup> Department of Urology, Fudan University Shanghai Cancer Center, Institutes of Biomedical Sciences, Fudan University, Shanghai, 200032, China.
- <sup>2</sup> Department of Urology, Fudan University Shanghai Cancer Center, Department of Oncology, Shanghai Medical College, Fudan University, Shanghai, 200032, China.
- <sup>3</sup> Department of Pathology, Fudan University Shanghai Cancer Center, Department of Oncology, Shanghai Medical College, Fudan University, Shanghai, 200032, China.
- <sup>4</sup> Department of Urology, Fudan University Shanghai Cancer Center, Institutes of Biomedical Sciences, Department of Oncology, Shanghai Medical College, Fudan University, Shanghai, 200032, China.

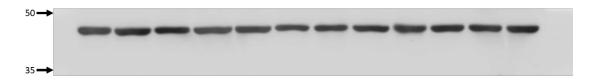
Correspondence and requests for materials should be addressed to D.Y. (email: dwyeli@163.com)

<sup>\*</sup> These authors contributed equally to this work.

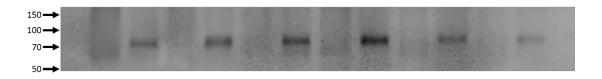
Supplementary materials for Fig. 1C:



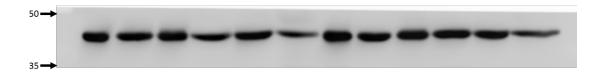
Detecting COL23A1 of ccRCC patients' (1~6) tissues by Western Blot



Detecting endogenous control ( $\beta$ -actin) of ccRCC patients' (1~6) tissues by Western Blot

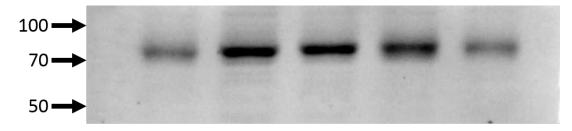


Detecting COL23A1 of ccRCC patients' (7~12) tissues by Western Blot

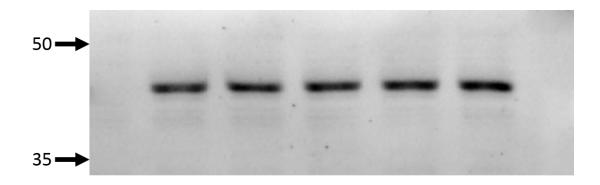


Detecting endogenous control ( $\beta$ -actin) of ccRCC patients' (7~12) tissues by Western Blot

Supplementary materials for Fig. 3B:

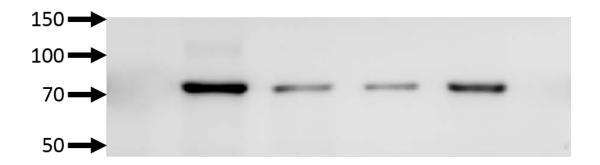


COL23A1 expression in one normal and four ccRCC cell lines

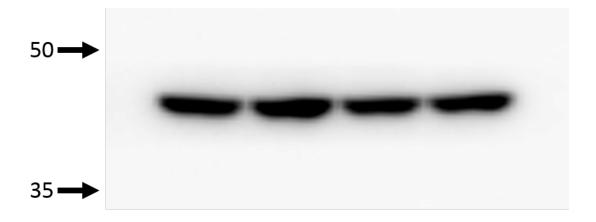


Expression of endogenous control ( $\beta$ -actin) in one normal and four ccRCC cell lines

Supplementary materials for Fig. 4C:

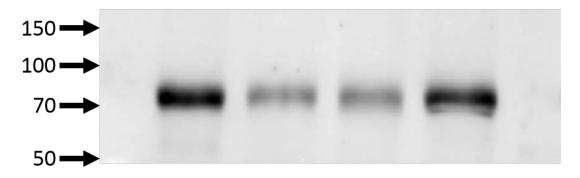


Detecting the efficiency of COL23A1 knockdown by small interfering RNA in 786-O

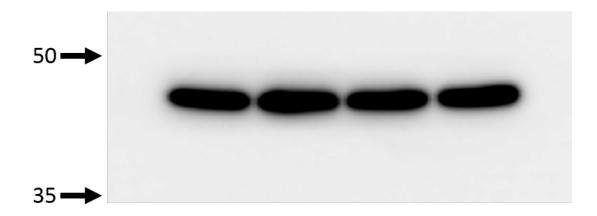


Expression of endogenous control ( $\beta$ -actin) in cell lines detecting the efficiency of COL23A1 knockdown in 786-O

Supplementary materials for Fig. 4D:

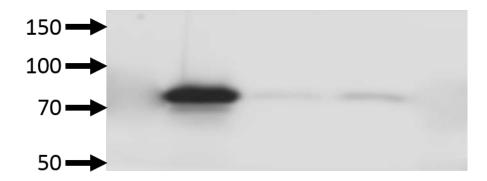


Detecting the efficiency of COL23A1 knockdown by small interfering RNA in A-498

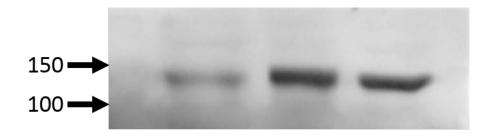


Expression of endogenous control ( $\beta$ -actin) in cell lines detecting the efficiency of COL23A1 knockdown in A-498

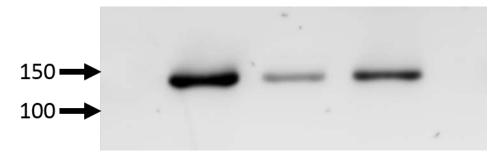
Supplementary materials for Fig. 6C:



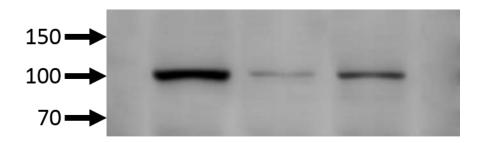
COL23A1 expression in 786-O (siNC, siRNA#1 and siRNA#2)



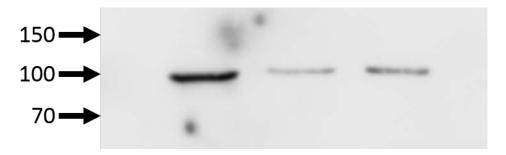
E-cadherin expression in 786-O (siNC, siRNA#1 and siRNA#2)



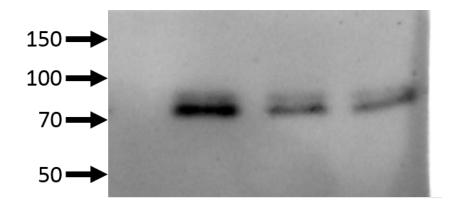
N-cadherin expression in 786-O (siNC, siRNA#1 and siRNA#2)



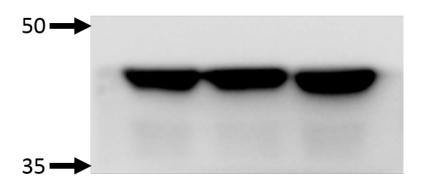
 $\alpha$  -catenin expression in 786-O (siNC, siRNA#1 and siRNA#2)



 $\beta$  -catenin expression in 786-O (siNC, siRNA#1 and siRNA#2)

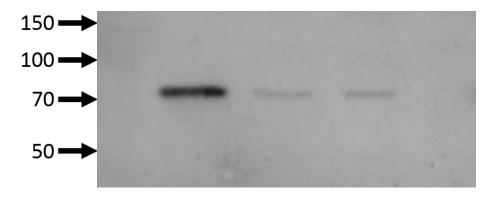


 $\gamma$  -catenin expression in 786-O (siNC, siRNA#1 and siRNA#2)

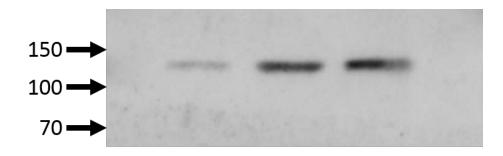


Expression of endogenous control ( $\beta$ -actin) in 786-O (siNC, siRNA#1 and siRNA#2)

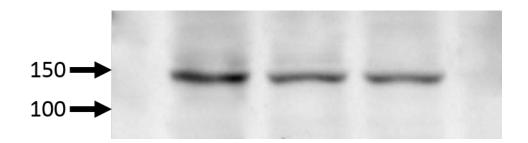
Supplementary materials for Fig. 6D:



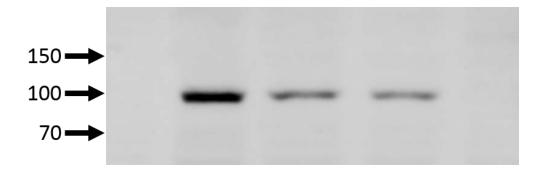
COL23A1 expression in A-498 (siNC, siRNA#1 and siRNA#2)



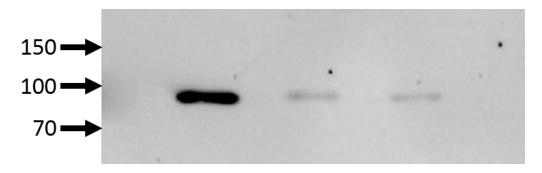
E-cadherin expression in A-498 (siNC, siRNA#1 and siRNA#2)



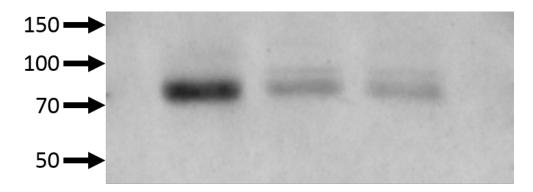
N-cadherin expression in A-498 (siNC, siRNA#1 and siRNA#2)



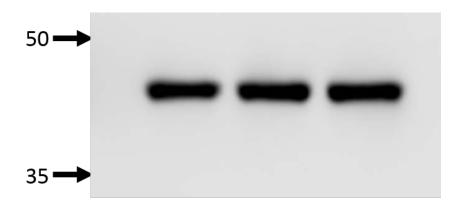
 $\alpha$  -catenin expression in A-498 (siNC, siRNA#1 and siRNA#2)



β -catenin expression in A-498 (siNC, siRNA#1 and siRNA#2)



 $\gamma$  -catenin expression in A-498 (siNC, siRNA#1 and siRNA#2)



Expression of endogenous control ( $\beta$ -actin) in A-498 (siNC, siRNA#1 and siRNA#2)