## **Supplementary Information**

Normal
Grade II

Grade III

Grade IV

B

B

**Figure S1.** (A) The four grades of OA patients undergoing total knee replacement surgery according to K.L. Image Criterion (the white arrow indicates joint space and the red arrow indicates osteophyte spur); (B) The expression of collagen II in human OA chondrocytes using immunohistochemistry assay (magnification 100×).

OA chondrocytes Col II in OA chondrocytes