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**Supplemental figure 1** 



**Supplemental figure 2** 





**Supplemental figure 4** 

Progranulin modulates cartilage-specific gene expression via SIRT1-mediated deacetylation of Sox9 and p65

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## SUPPLEMENTAL FIGURE LEGENDS

# Supplemental Figure 1 EphA2 expression in human articular cartilage and chondrocytes treated with PGRN.

*A*, Immunohistochemistry and statistical analyses of EphA2 expression in articular cartilage from normal humans and OA patients (n=6/group). Scale bar, 50µm. One-way ANOVA and Tukey's multiple comparison test. *B*, Chondrocytes were cultured in the presence of graded concentrations of recombinant PGRN(0-200ng/ml) for 48 h. EphA2 mRNA level was examined by real-time PCR. One-way ANOVA and Dunnett's multiple comparison test.

#### **Supplemental Figure 2**

*A-D*, Quantification of figure 2E, 2F, 2I and 2O were shown on panel A-D, respectively. Data are expressed as means  $\pm$  S.D. in each scatter plot. \**P*<0.05, \*\**P*<0.01, \*\*\**P*<0.001. A-B Oneway ANOVA and Dunnett's multiple comparison test. C-D, One-way ANOVA and Tukey's multiple comparison test.

## **Supplemental Figure 3**

*A-C*, Quantification of figure 4A, 4F, 4H were shown on panel A-C, respectively. Data are expressed as means  $\pm$  S.D. in each scatter plot. \**P*<0.05, \*\**P*<0.01, \*\*\**P*<0.001. One-way ANOVA and Tukey's multiple comparison test.

# **Supplemental Figure 4**

*A-B*, Quantification of figure 6A and 6H were shown on panel A-B, respectively. Data are expressed as means  $\pm$  S.D. in each scatter plot. \**P*<0.05, \*\**P*<0.01, \*\*\**P*<0.001. One-way ANOVA and Tukey's multiple comparison test.