

Supplemental Data

RB1CC1 suppresses type II collagen synthesis in chondrocytes, and causes dwarfism

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Supplemental Figure 1. Col2-RB1CC1 causes dwarfism in mice.

A. Col2-RB1CC1 (*RB1CC1/Cre*) mice had lower body weights than the other types (*RB1CC1/wt*, *wt/Cre* and *wt/wt*) of mice. Horizontal numbers indicate mouse ages (weeks old: wo). **B & C.** *RB1CC1/Cre* mice (24 wo) had significantly shorter tibial (B) and cranio-sacral (C) lengths than the other types. The values indicate the means from both #44 and #84 of transgenic *CAG-floxed-Neo-RB1CC1* mouse lines. One-way factorial ANOVA and multiple comparison tests accompanied by Scheffe's significance were used to evaluate the relationships between genotypes and body sizes (*; $p < 0.05$, statistically significant).

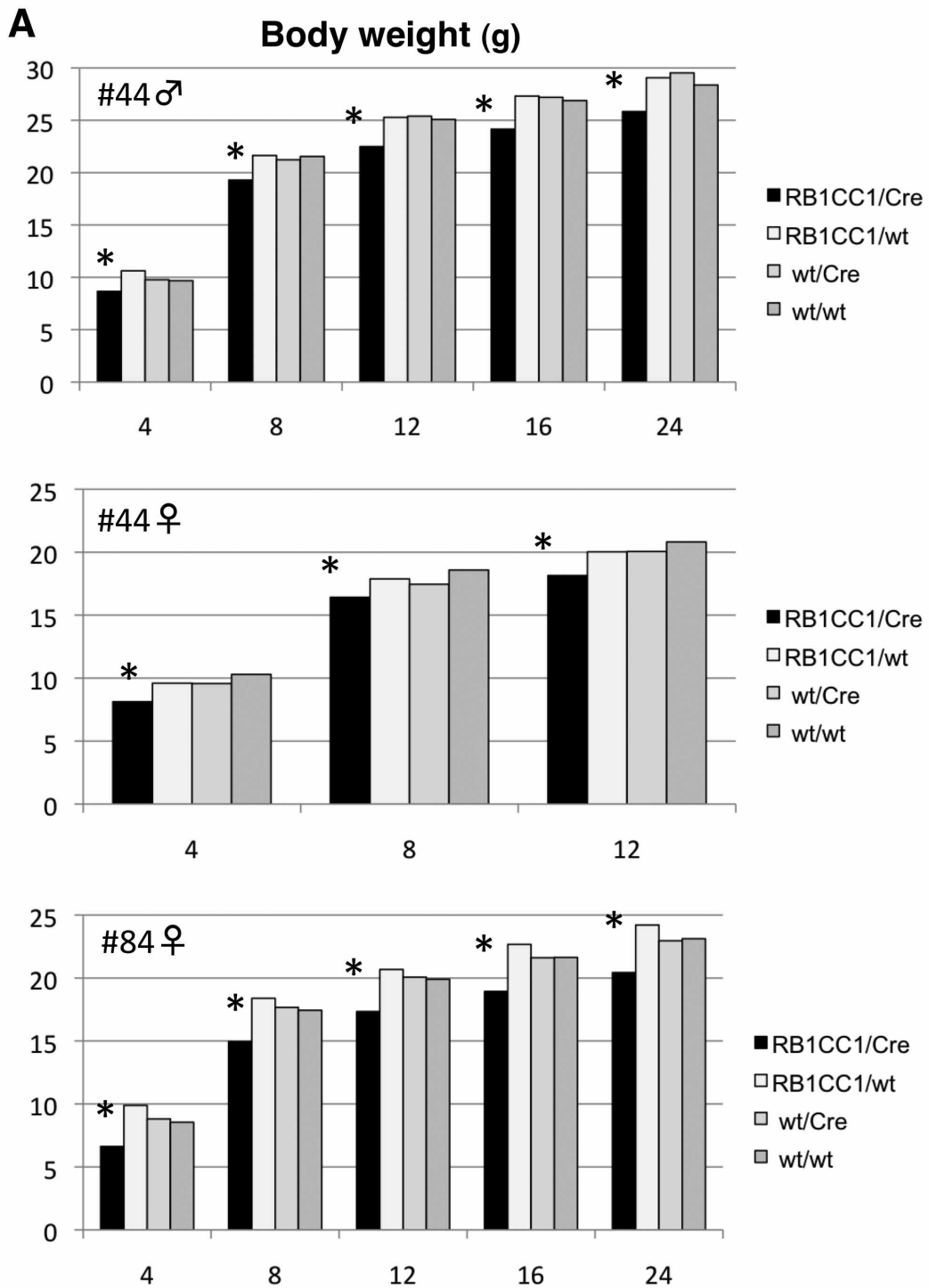
Supplemental Figure 2. RB1CC1 cannot inhibit synthesis of aggrecan, COMP and sGAG, but that of type II collagen.

A. ATDC5 cells were differentiated to chondrocytes for 0-96 hr after the transduction of *RB1CC1* cDNA or the empty vector *control* (1 μ g/well), and the lysates were analyzed by Western blots with the indicated antibodies. D & numbers indicate hours fed by the differentiation medium. Pre-Diff: pre-transduced ATDC5. D96 cont: non-transduced & 96 hr differentiated ATDC5. **B.** The sulfated glycosaminoglycan (sGAG) amount in culture medium of 96 hr differentiated ATDC5 chondrocytic cells was not significantly changed irrespective of *RB1CC1* cDNA transduction (0-2 μ g/well). The means \pm standard errors were from quadruplicate experiments, and were statistically analyzed by the Kruskal-Wallis test ($p=0.401$).

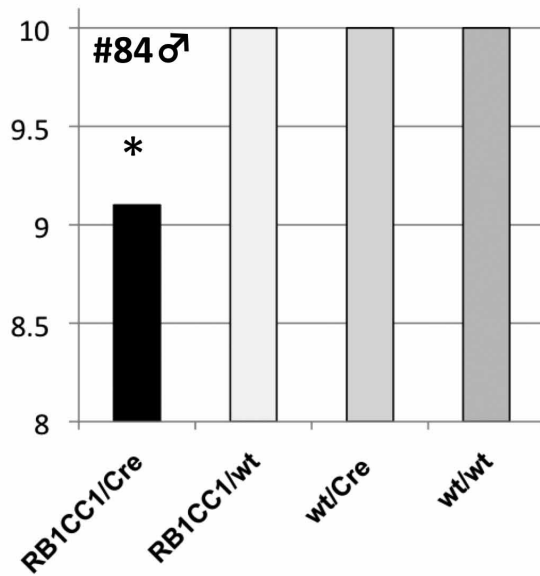
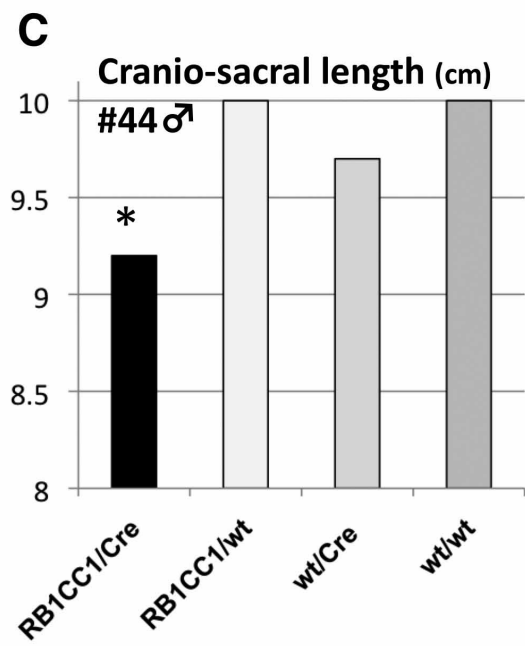
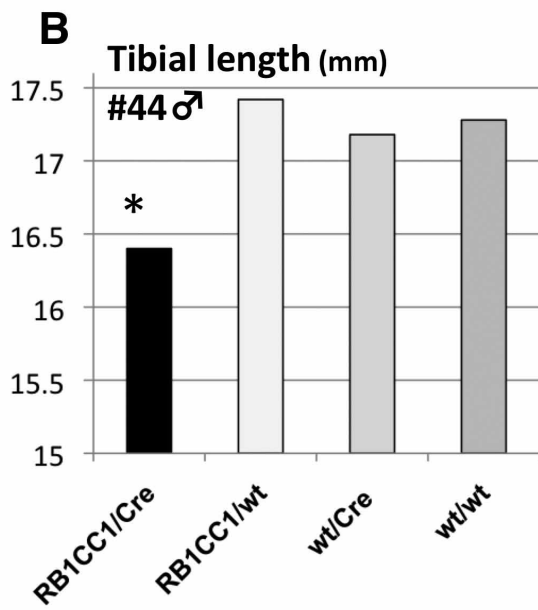
Supplemental Figure 3. Activated NF κ B or accumulated p62/SQSTM1 cannot be detected in Col2-RB1CC1 mice.

Neither phosphorylated NF κ B (536) nor p62/SQSTM1 was detected in the chondrocytes of d18.5 *RB1CC1/Cre* and *wt/wt* embryos. Scale bar: 100 μ m.

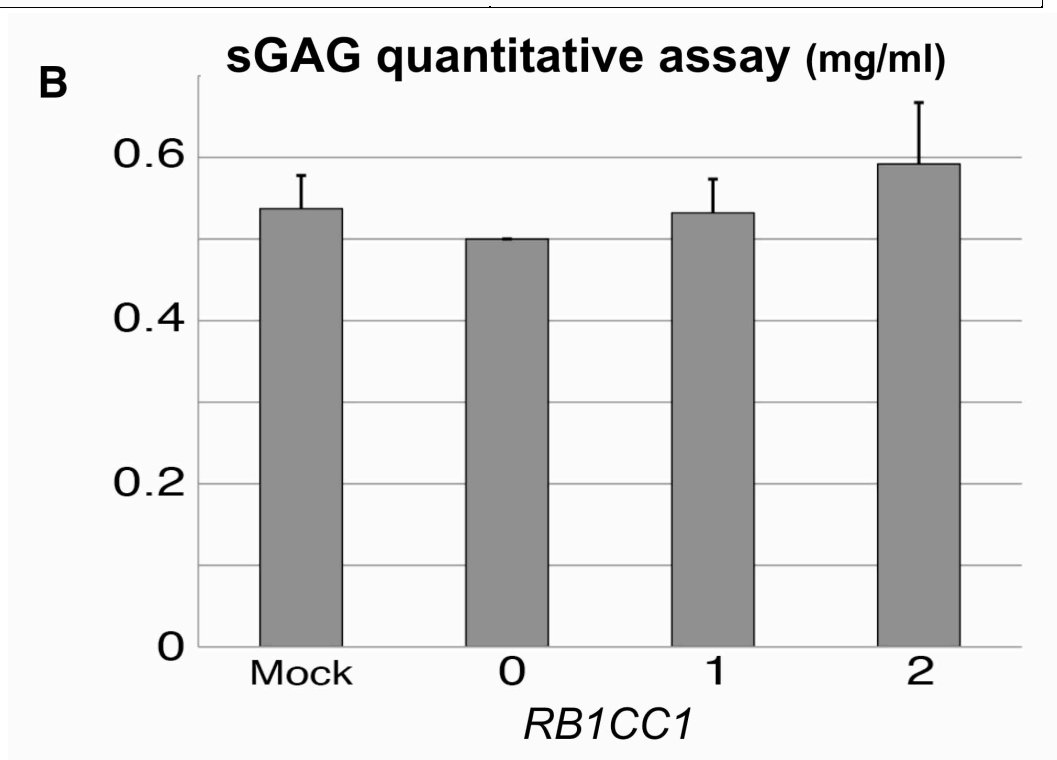
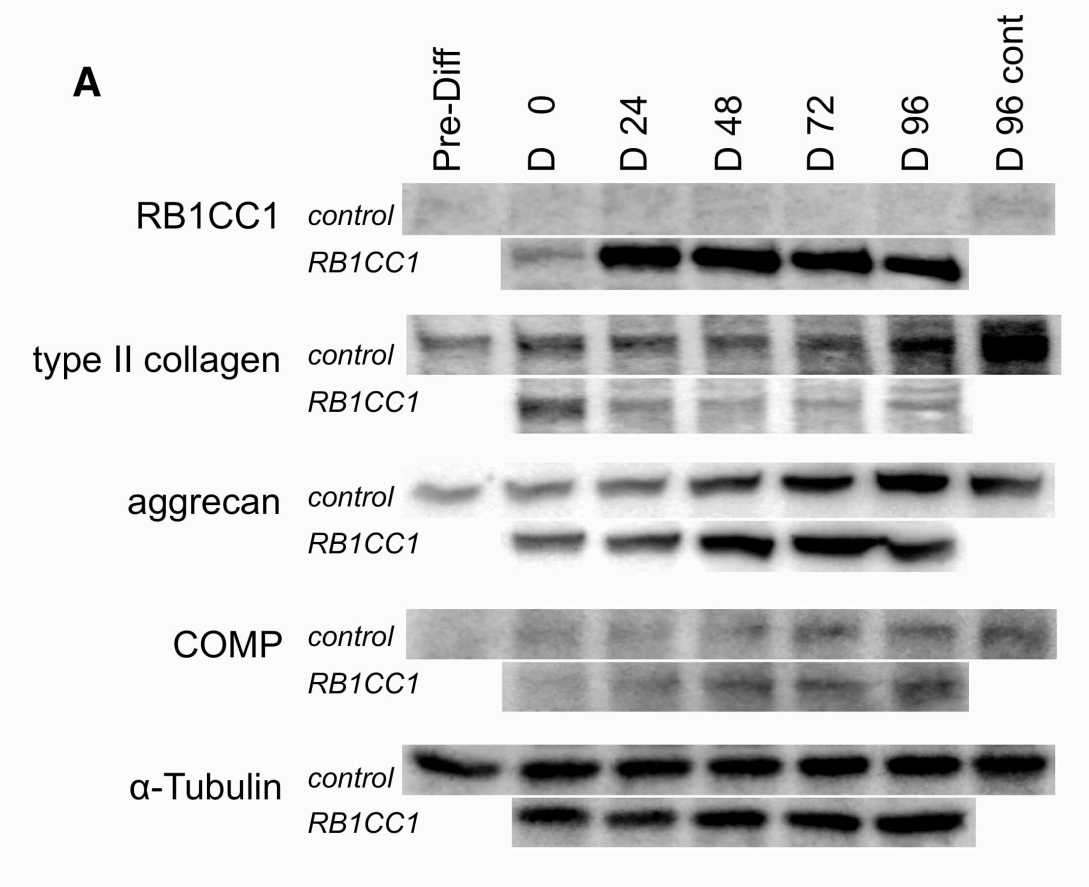
Supplemental Figure 1



Supplemental Figure 1

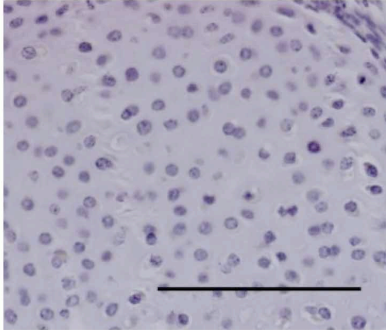


Supplemental Figure 2

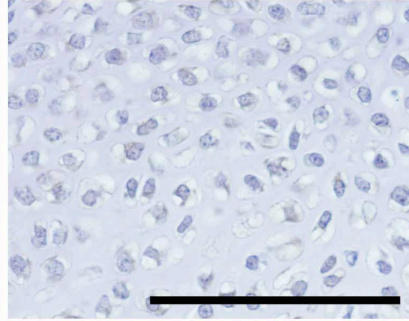


Supplemental Figure 3

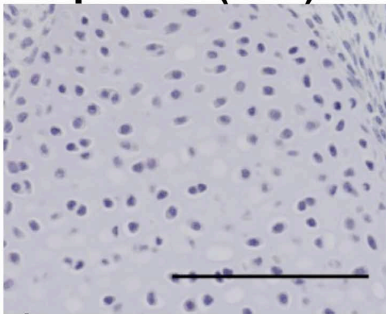
RB1CC1/Cre



pNFkB(536)



p62/SQSTM1



wt/wt

