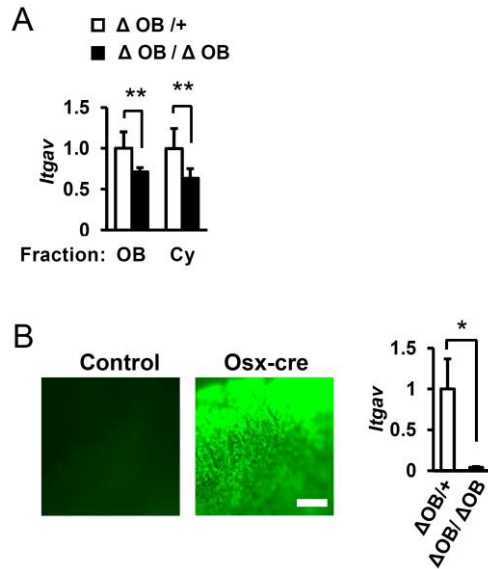
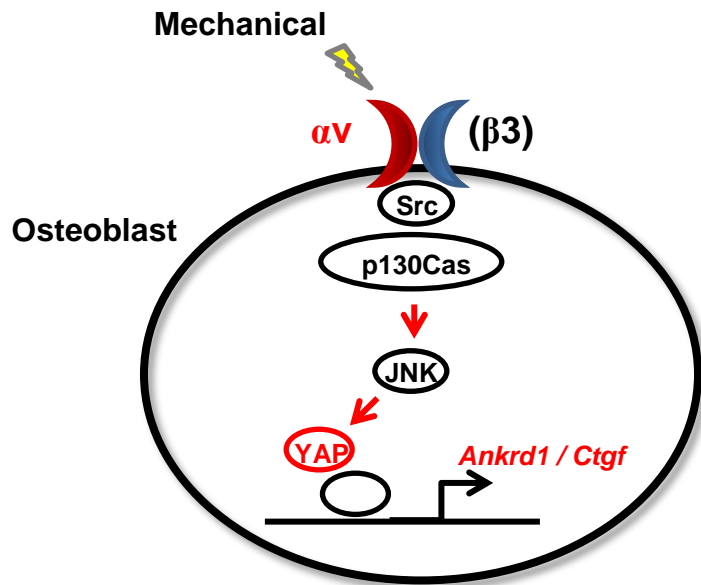


Supplemental Data



Supplemental Figure 1

(A) Quantitative RT-PCR analysis of *Itgav* mRNA in osteoblast (OB)- and osteocyte (Cy)-rich fractions isolated from the tibia and femur of $\Delta OB/+$ and $\Delta OB/\Delta OB$ mice at 3-mo of age. Data are means \pm SD for four mice of each group. ** $p < 0.01$ (B) Reduced *Itgav* expression in isolated osteoblasts. GFP-positive osteoblastic cells were isolated by FACS from the calvaria of osterix-Cre mice, which express GFP-Cre fusion protein (left panel), and the expression of *Itgav* mRNA was quantified in $\Delta OB/+$ and $\Delta OB/\Delta OB$ mice (right panel). * $p < 0.05$ (n=3 each group). Scale bars, 200 μ m.



Supplemental Figure 2. Proposed mechanotransduction pathway in osteoblasts lineage cells, and possibly osteocytes. Based on our osteoblastic cell model, we propose that integrin αV constitutes a mechanosensing machinery in osteoblasts lineage cells, and possibly osteocytes, and transduces a physical force along a signaling pathway involving phosphorylation of p130Cas, JNK and nuclear translocation of YAP/TAZ and transcriptional activation.

Supplemental table 1. Oligonucleotide primers for qPCR

Gene	Forward primer (5'-3')
	Reverse primer (5'-3')
<i>Gapdh</i>	AGCTTGTCATCAACGGGAAG
	TTTGATGTTAGTGGGGTCTCG
<i>Itgav</i>	GGACTGAGATGAAGCAGGAGAGA
	GGTCTTTGTGCCGTCCTGAA
<i>Egr1</i>	TCTTGGTGCCTTTTGTGTGAC
	CTCTTCCTCGTTTTTGCTCTC
<i>Fos</i>	GTCCGGTTCCTTCTATGCAG
	TAAGTAGTGCAGCCCGGAGT
<i>Ankrd1</i>	AGTAGAGGAGCTGGTAACAGG
	TTGGCCGGAAGTGTCTTCAGGT
<i>Ctgf</i>	AGGAGTGGGTGTGTGACGA
	CCAGGCAGTTGGCTCGCATC
<i>Yap1</i>	CAGGAATTATTTTCGGCAGGA
	CATCCTGCTCCAGTGTAGGC
<i>Sost</i>	CTTCAGGAATGATGCCACAGAGGT
	ATCTTTGGCGTCATAGGGATGGTG