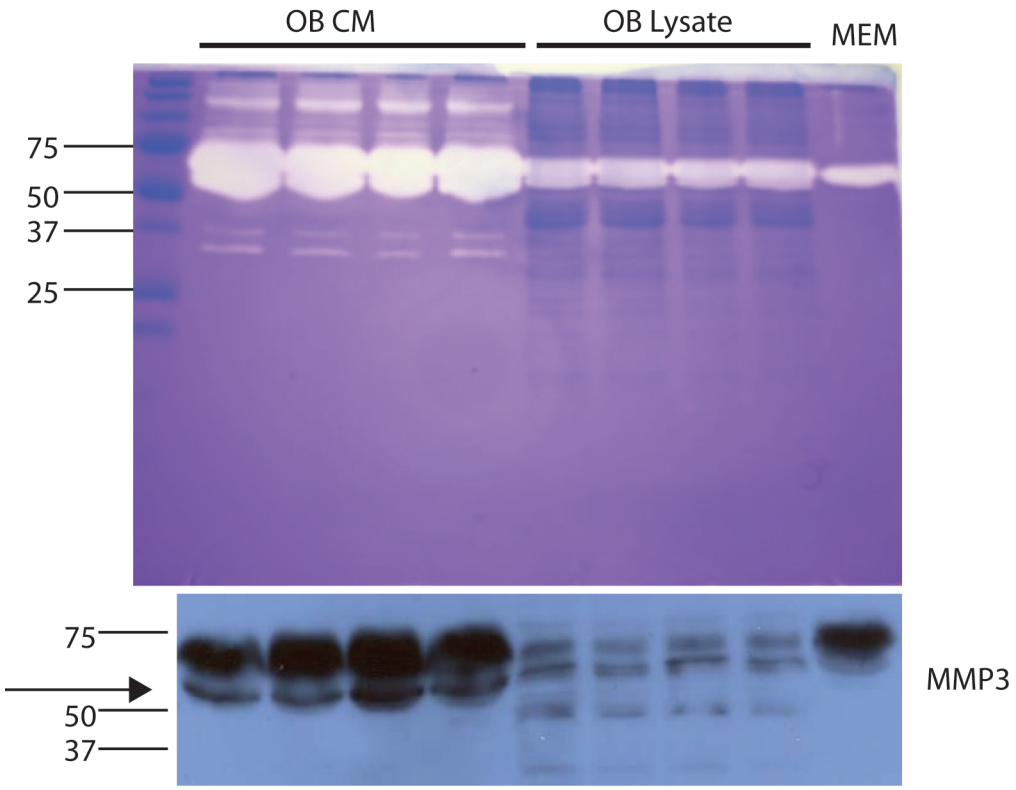
Supplemental Table 1

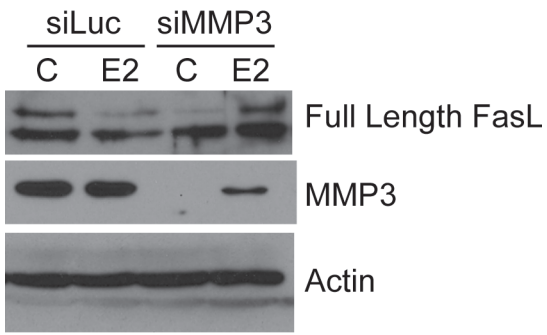
Target	Species	Forward (5'-3')	Reverse (5'-3')
MMP3	mouse	CAGACTTGTCCCGTTTCCAT	GGTGCTGACTGCATCAAAGA
MMP3	human	TCATTTTGGCCATCTCTTCC	GGGAAACCTAGGGTGTGGAT
β-Actin	mouse	AGCCATGTACGTAGCCATCC	CTCTCAGCTGTGGTGGTGAA
β-Actin	human	GGACTTCGAGCAAGAGATGG	AGCACTGTGTTGGCGTACAG
ADAM10	mouse	AGCAACATCTGGGGACAAAC	TTGCACTGGTCACTGTAGCC
MMP7	mouse	CCCGGTACTGTGATGTACCC	AATGGAGGACCCAGTGAGTG
ADAM10	human	TCCCCTTGCAACGATTTTAG	AATACTGCCCACCAATGAGC
MMP7	human	GAGTGCCAGATGTTGCAGAA	AAATGCAGGGGGATCTCTTT

Supplemental Figure 1



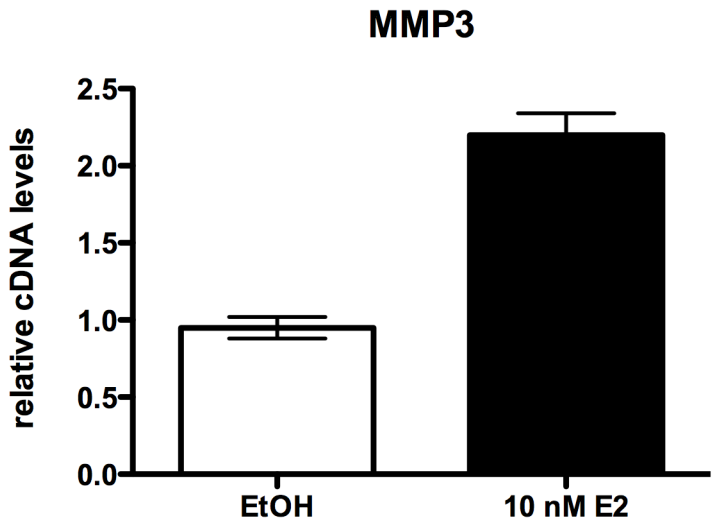
Supplemental Figure 1. (top) Gel zymography of osteoblast (OB) conditioned media (CM) and osteoblast lysate. The inactive form of MMP-3 is 57 kDa and the active form is 45 kDa. The inactive form of MMP-7 is 28 kDa and the active form = 19 kDa. ADAM10 is 84 kDa. (bottom) Immunoblot of OB conditioned media and OB lysates with an antibody to MMP3. Arrow indicates specific MMP3 band not found in the media (MEM) without cells.

Supplemental Figure 2



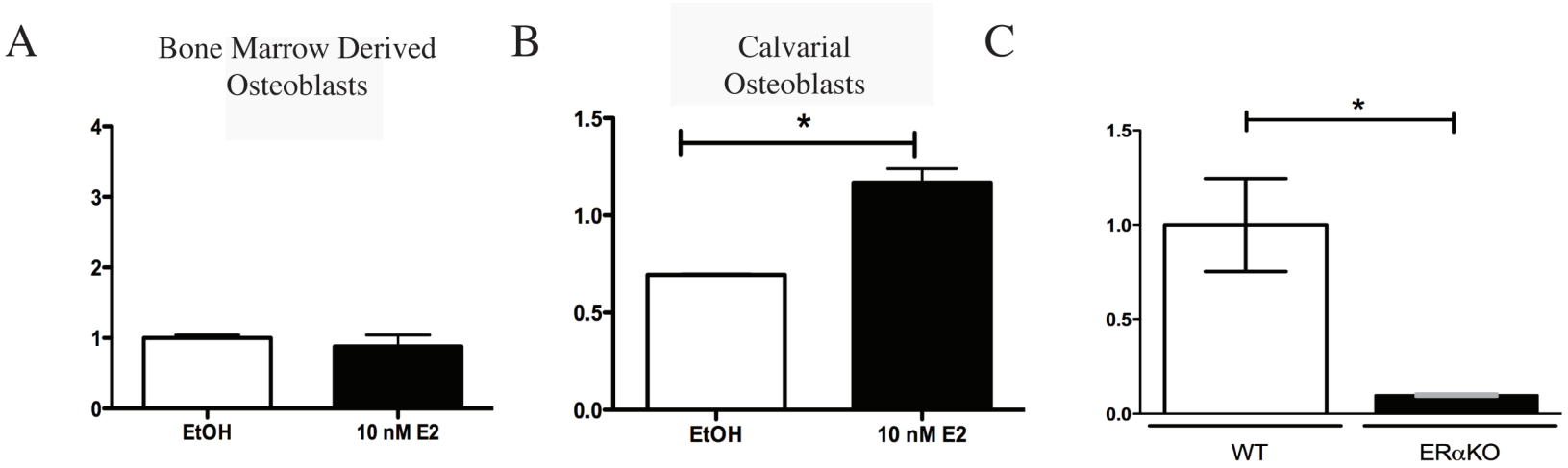
U2OS-ERα cells were transfected with either an siRNA directed at luciferase (siLUC) or MMP3 (siMMP3, from Life Technologies). 48 hours after transfection cells were treated for 24 hours with vehicle control (C) or 10 nM E2. Cells were lysed and total cellular protein was immunoblotted for FasL, MMP3 and actin.

Supplemental Figure 3



MMP3 is upregulated by E2 in human osteoblasts. Human pericytes were differentiated to osteoblasts and then treated with 10 nM E2 for 24 hours. RNA was obtained and cDNA was subjected to qPCR for MMP3 and normalized to actin.

Supplemental Figure 4



RUNX2 is upregulated by E2 in calvarial osteoblasts. (A and B) Bone marrow derived osteoblasts and calvarial osteoblasts were differentiated and then treated with 10 nM E2 for 3 hours. RNA was obtained and cDNA was subjected to qPCR for RUNX2 and normalized to actin. Bone-marrow derived osteoblasts from wildtype (WT) and estrogen receptor knockout (ERαKO) mice were differentiated for 10 days. RNA was obtained and RUNX2 mRNA was analyzed by quantitative PCR and normalized to actin mRNA