



Supplemental Digital Content 1. Figure shows (a) Representative TRAP-stained images at days 7. TRAP (+) osteoclasts were evident at the defect margin and the bone marrow space. At day 7, more intense TRAP (+) staining was shown in Lyz-TLR4^{-/-} mice compared to WT mice. (b) Representative anti-F4/80 stained images at day 1. Similar anti-F4/80 staining, suggesting comparable macrophage infiltration, was observed in WT, TLR4^{-/-}, and Lyz-TLR4^{-/-} mice at day 1. (c) Similar expression pattern of *rankl* was shown between TLR4^{-/-} and Lyz-TLR4^{-/-} mice, while fold change in expression of these two genes remained relatively unchanged in WT mice after surgery. (d) Fold change in expression of TLR2 from WT, TLR4^{-/-}, and Lyz-TLR4^{-/-} mice at three hours, day 1 and day 4. Significantly higher expression of TLR2 was observed in TLR4^{-/-} mice compared to WT and Lyz-TLR4^{-/-} mice at day 1 and day 4. (scale bar: 50 μ m; n=3~5/group/time point for histology analyses, n=3~8/group/time point for PCR analyses; mean \pm SEM; bolded arrow: defect margin, Endo: endocortical side; p<0.05, * compared to WT mice, # vs. Lyz-TLR4^{-/-} mice).