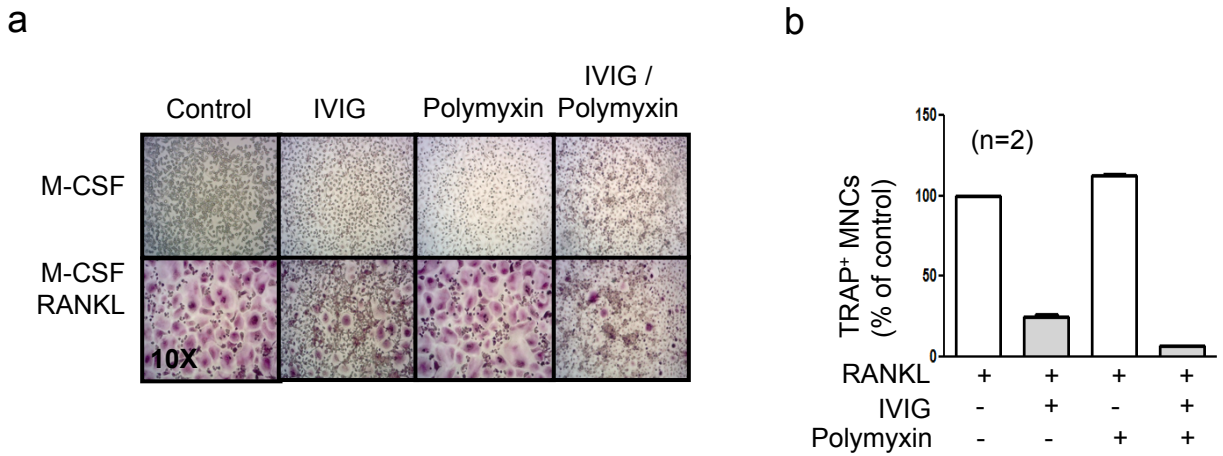
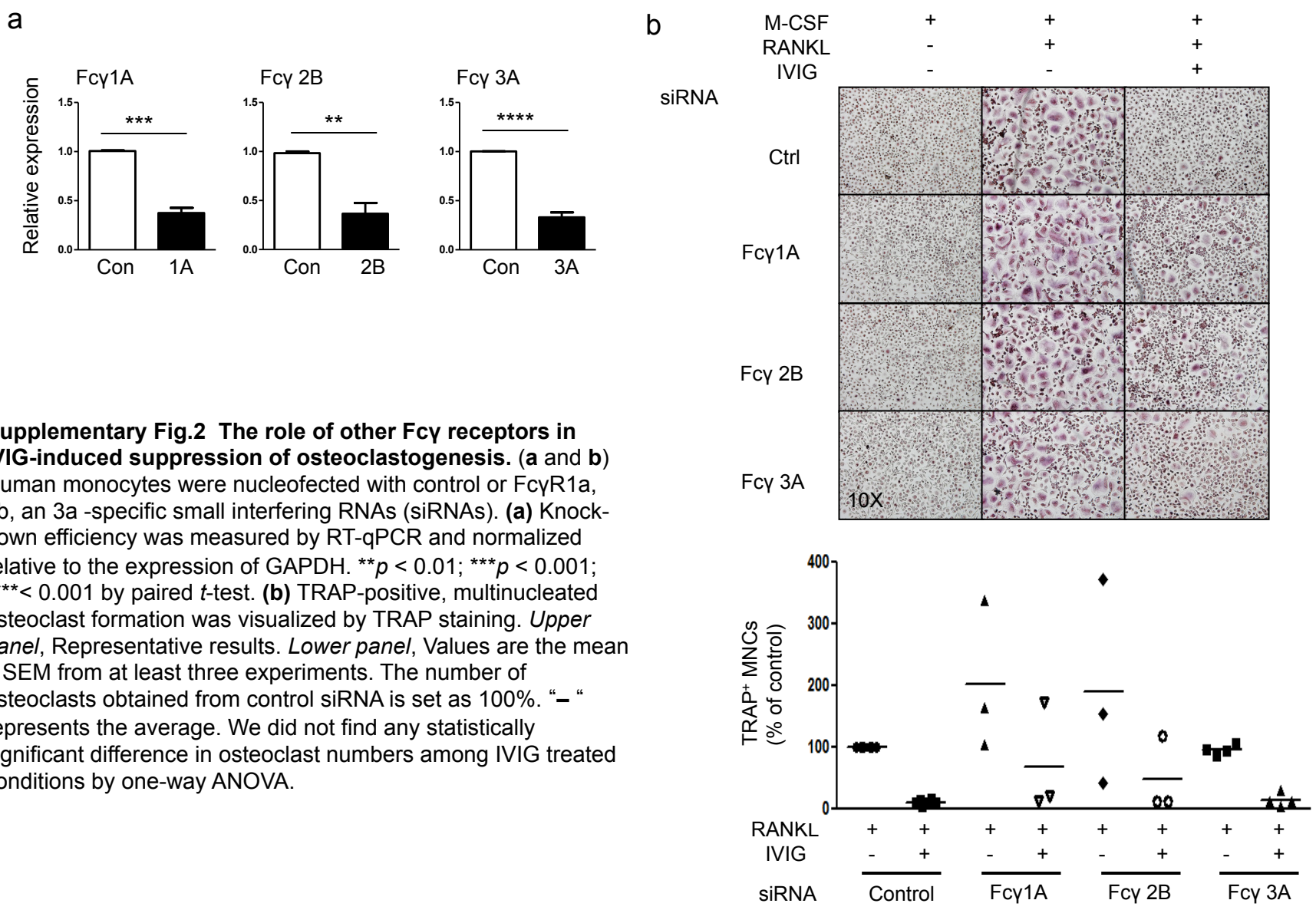
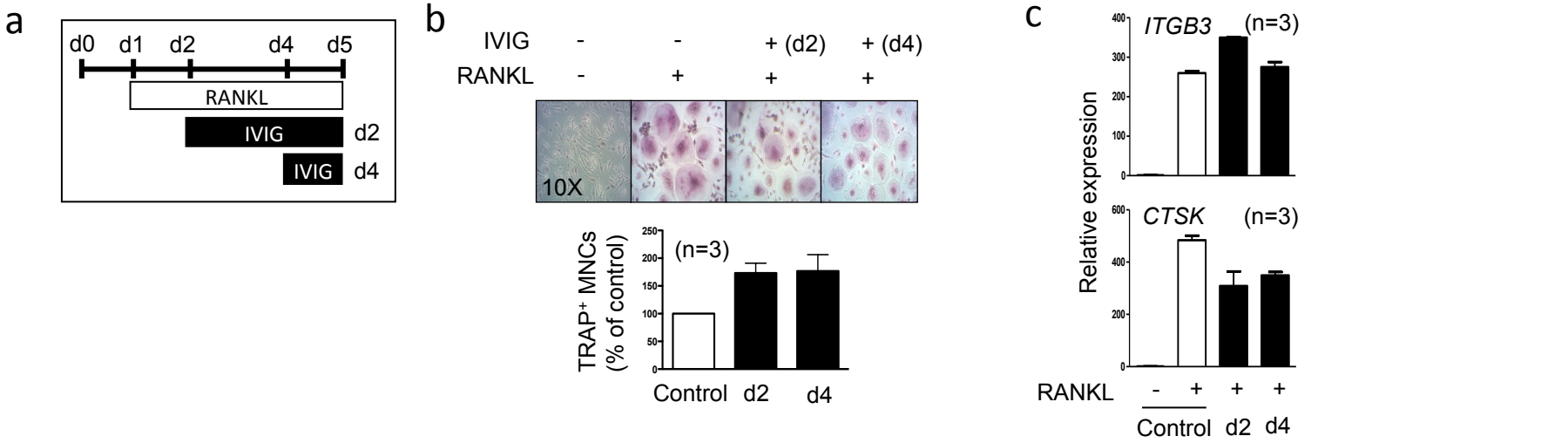


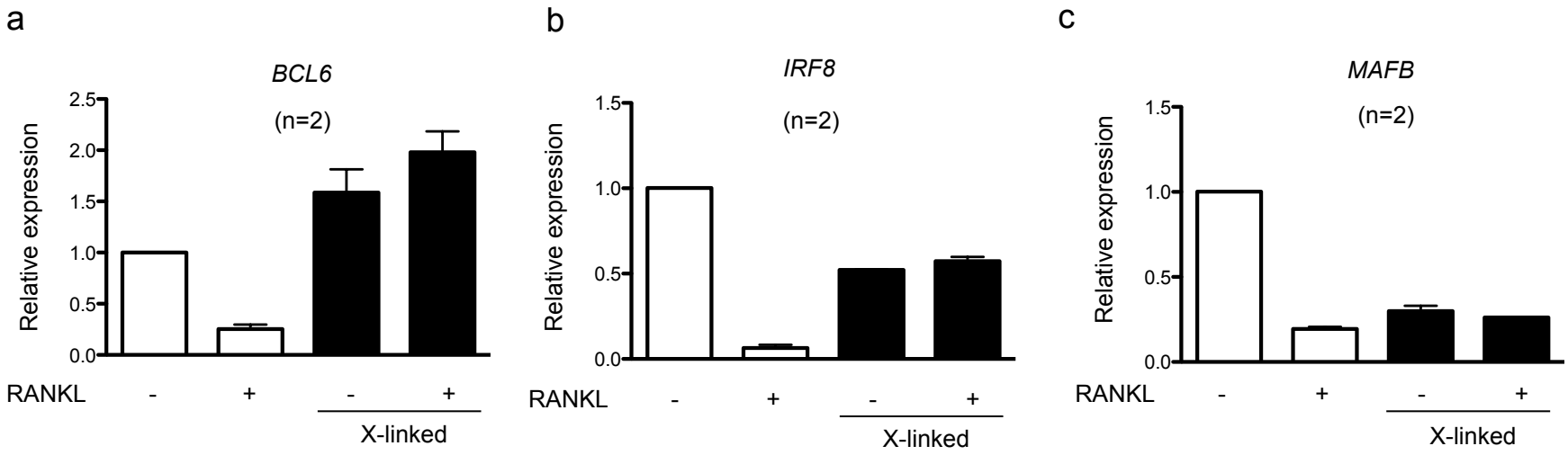
Supplementary Fig.1 The inhibitory effects of IVIG on osteoclastogenesis are independent of LPS contamination. (**a** and **b**) Human $CD14^+$ cells were cultured with human M-CSF (20 ng/ml) in the presence or absence of IVIG (1mg/ml) for one day. Polymyxin (0.28 μg/ml) was added to cells at the beginning of culture. RANKL (40 ng/ml) was added to the cultures for 5 additional days. (**a**) Representative results from one experiment out of two experiments performed are shown. (**b**) TRAP-positive, multinucleated (more than three nuclei) cells were counted in triplicate. The number of osteoclasts generated by RANKL alone is set as 100% for each individual blood donor. Data are shown as mean ± SEM from two independent donors.



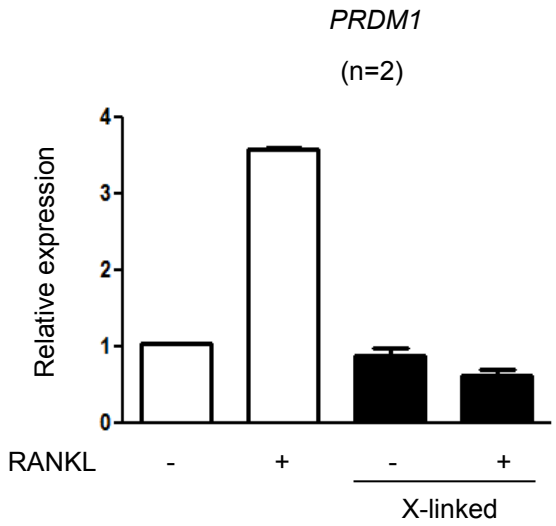
Supplementary Fig.2 The role of other Fcγ receptors in IVIG-induced suppression of osteoclastogenesis. (**a** and **b**) Human monocytes were nucleofected with control or FcγR1a, 2b, an 3a -specific small interfering RNAs (siRNAs). **(a)** Knock-down efficiency was measured by RT-qPCR and normalized relative to the expression of GAPDH. ** $p < 0.01$; *** $p < 0.001$; ****< 0.001 by paired *t*-test. **(b)** TRAP-positive, multinucleated osteoclast formation was visualized by TRAP staining. *Upper panel*, Representative results. *Lower panel*, Values are the mean ± SEM from at least three experiments. The number of osteoclasts obtained from control siRNA is set as 100%. "**–** " represents the average. We did not find any statistically significant difference in osteoclast numbers among IVIG treated conditions by one-way ANOVA.



Supplementary Fig.3 IVIG does not inhibit human osteoclastogenesis when added after RANKL stimulation. Cells were cultured with RANKL for one or three days and then IVIG was added to the culture. **(a)** Experimental scheme, IVIG was added after RANKL. **(b)** *Upper panel*, Representative results. *Lower panel,* The number of osteoclasts generated by RANKL alone is set as 100%. Values are the mean ± SEM. **(c)** Cells were cultured as in a, and mRNA was measured using RT-qPCR. Data are shown as mean ± SEM. *;$P < 0.05$; ** ;$P<0.01$ by one way ANOVA.



Supplementary Fig.4 Regulation of transcriptional repressors of osteoclastogenesis by RANKL and Fcγ receptor crosslinking. (**a-c**) Human monocytes were cultured on IgG coated plates for one day with human M-CSF (20 ng/ml) and then RANKL (40ng/ml) was added for 24 hours. mRNA of (**a**) BCL6 (**b**) IRF-8 and (**c**) MAFB was measured by RT-qPCR and normalized relative to the expression of GAPDH. Data are shown as mean ± SEM from two independent donors.



Supplementary Fig.5 RANKL-induced Blimp1 expression is suppressed by Fcγ receptor crosslinking. Human monocytes were cultured on IgG coated plates for one day with human M-CSF (20 ng/ml) and then RANKL (40ng/ml) was added for 24 hours. BLIMP1 mRNA was measured by RT-qPCR and normalized relative to the expression of GAPDH. Data are shown as mean ± SEM from two independent donors.