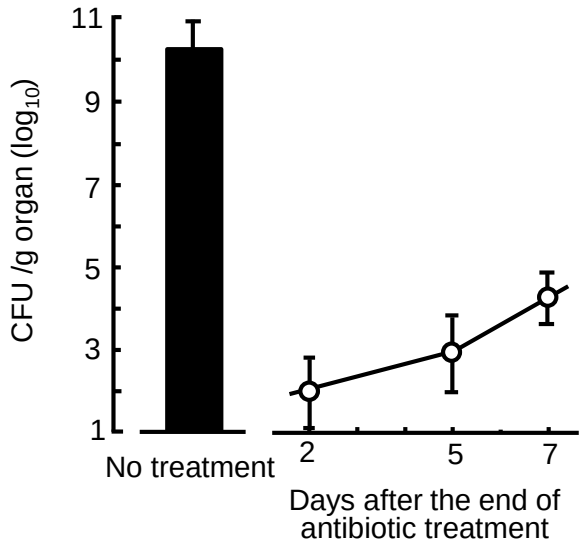
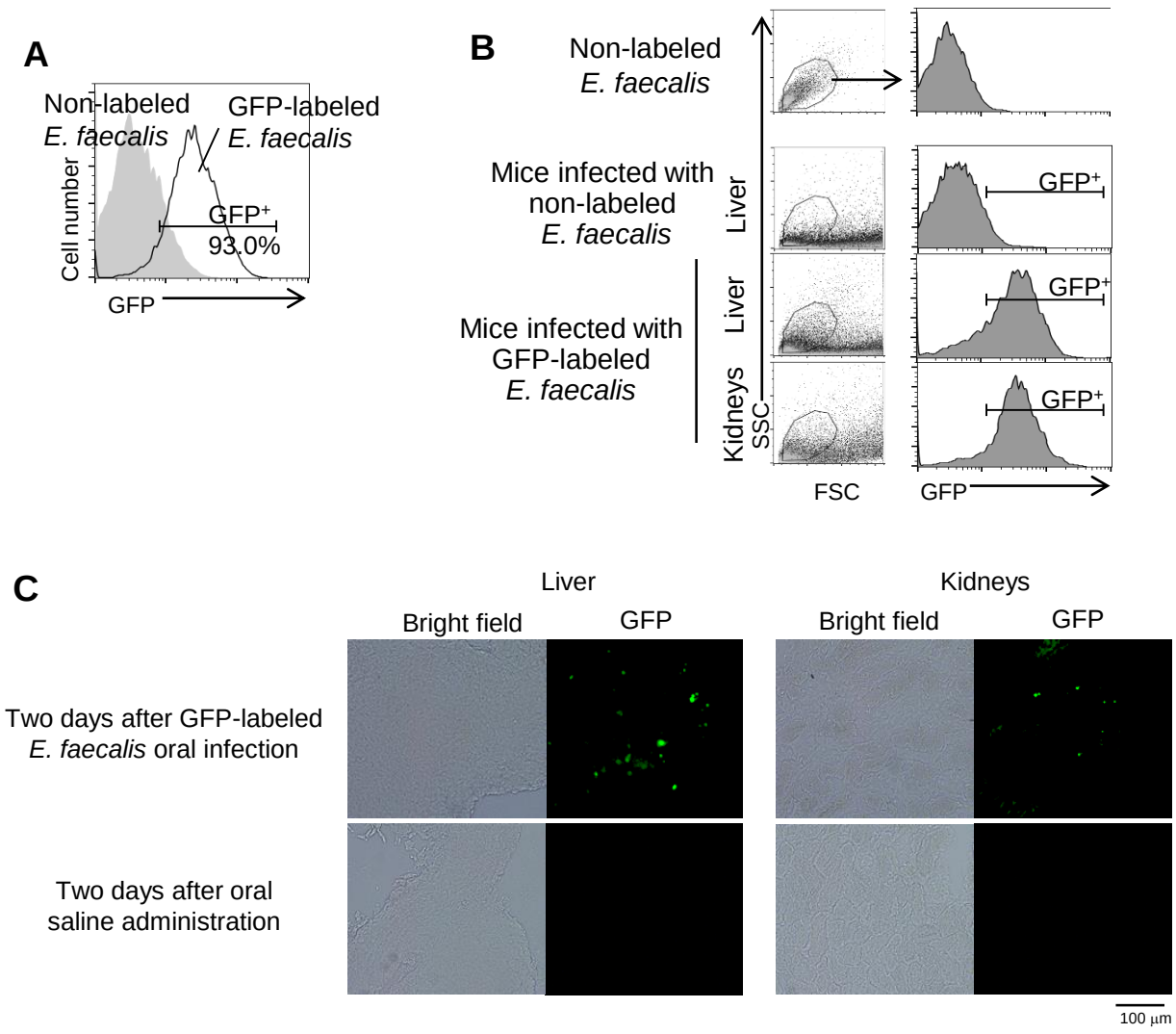
Supplemental Figure 1



Number of bacteria in the ileum of 7 Gy GIARS-mice decontaminated with an antibiotic cocktail. Seven Gy GIARS-mice were decontaminated by an antibiotic cocktail in the drinking water. Two, five and 7 days after the end of antibiotic treatment (7, 10, and 12 days post-irradiation), the number of bacteria in the ileum of these mice was determined by colony counting. Without antibiotic treatment, 10^{10} CFU/g organ or more of bacteria were detected in the ileum of 7 Gy GIARS-mice 7 days post-irradiation (filled column).

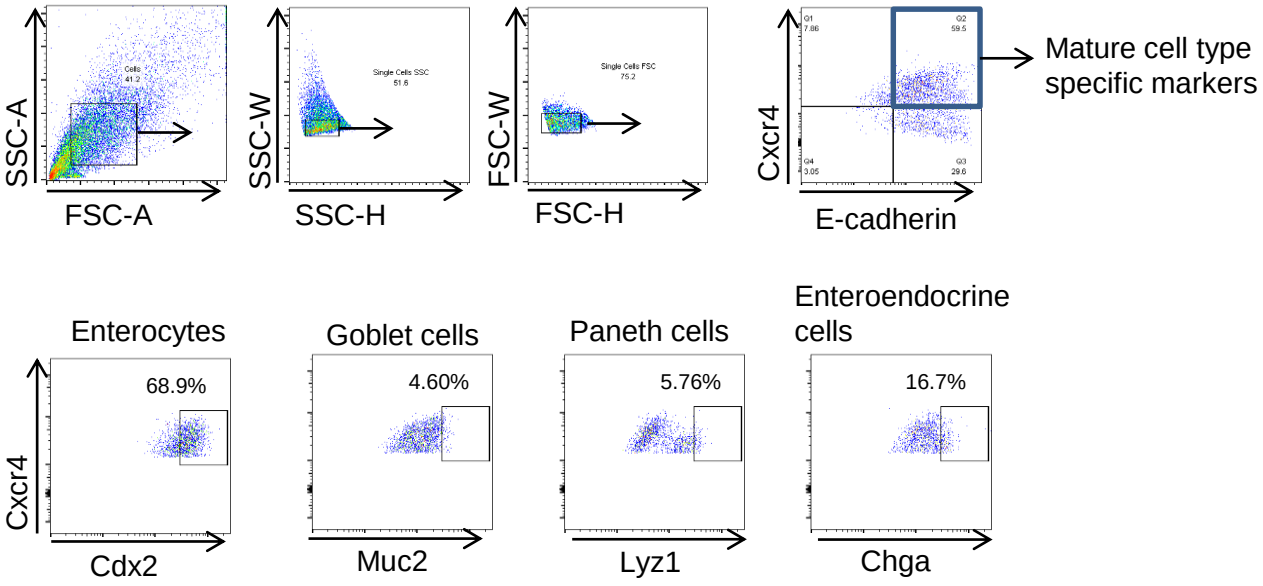
Supplemental Figure 2



Bacterial translocation stemming from *E. faecalis* oral infection. GFP (green fluorescent protein) expression was induced by maltose in *E. faecalis* transformed with pMV158GFP. (**A**) GFP signal in the bacteria was detected by flow cytometry. (**B**) Seven Gy dGIARS-mice (7 days post-irradiation) were orally infected with GFP-labeled *E. faecalis* or non-labeled *E. faecalis* (10^6 CFU/mouse). Two days after infection, the liver and kidneys removed from these mice were treated with collagenase for 20 min at 37°C. *E. faecalis* in the cell suspensions was detected in flow cytometry. Bacterial populations were gated on a forward scatter (FSC) / side scatter (SSC) plot (left). Translocated *E. faecalis* in the cell suspension was demonstrated by GFP (right). (**C**) GFP-labeled *E. faecalis* was detected in cryosections of organs obtained from the same mice shown in (B) by a fluorescent microscope. As controls, the same dGIARS-mice were orally treated with saline (0.5 ml/mouse).

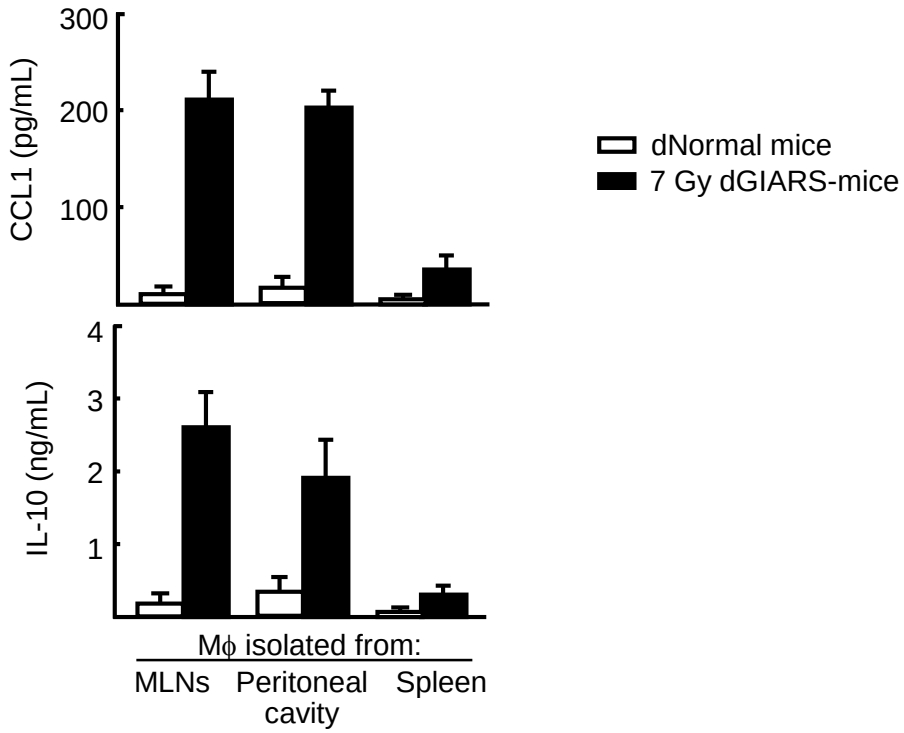
Supplemental Figure 3

(for Figure 4C)



ES-ICs (intestinal lineage cells differentiated from murine embryonic stem cells, $Cxcr4^{+}E\text{-}cadherin^{+}$ cells) were analyzed for enterocoyes (Cdx2), goblet cells (Muc2), Paneth cells (Lyz1), and enteroendocrine cells (Chga) by flow cytometry. Numbers in panels are the proportions of positively stained cells.

Supplemental Figure 4



CCL1 and IL-10 production by Mϕ isolated from MLNs, peritoneal cavity, and spleen of 7 Gy dGIARS-mice. Various Mϕ preparations (1 x 10^6 cells/ml), obtained from dNormal mice and dGIARS-mice 7 days post-irradiation, were cultured for 24 h without any stimulation. Culture fluids obtained were assayed for CCL1 and IL-10, as biomarkers for Pneno2b-Mϕ.