

Figure S1. Characteristics of TIGR4-inoculated *ApoE*<sup>-/-</sup> mice. (A) Representative images of atherosclerotic plaques in the aortic arch of *ApoE*<sup>-/-</sup> mice after 8 weeks of a high fat diet. (B) Morphological changes in the lungs of mice inoculated with TIGR4 bacteria. (C) Morphological abnormalities of black and white patches on the spleen of TIGR4-inoculated mice. (D) *Streptococcus pneumoniae* serotype 4 (TIGR4) growth on blood agar plate.

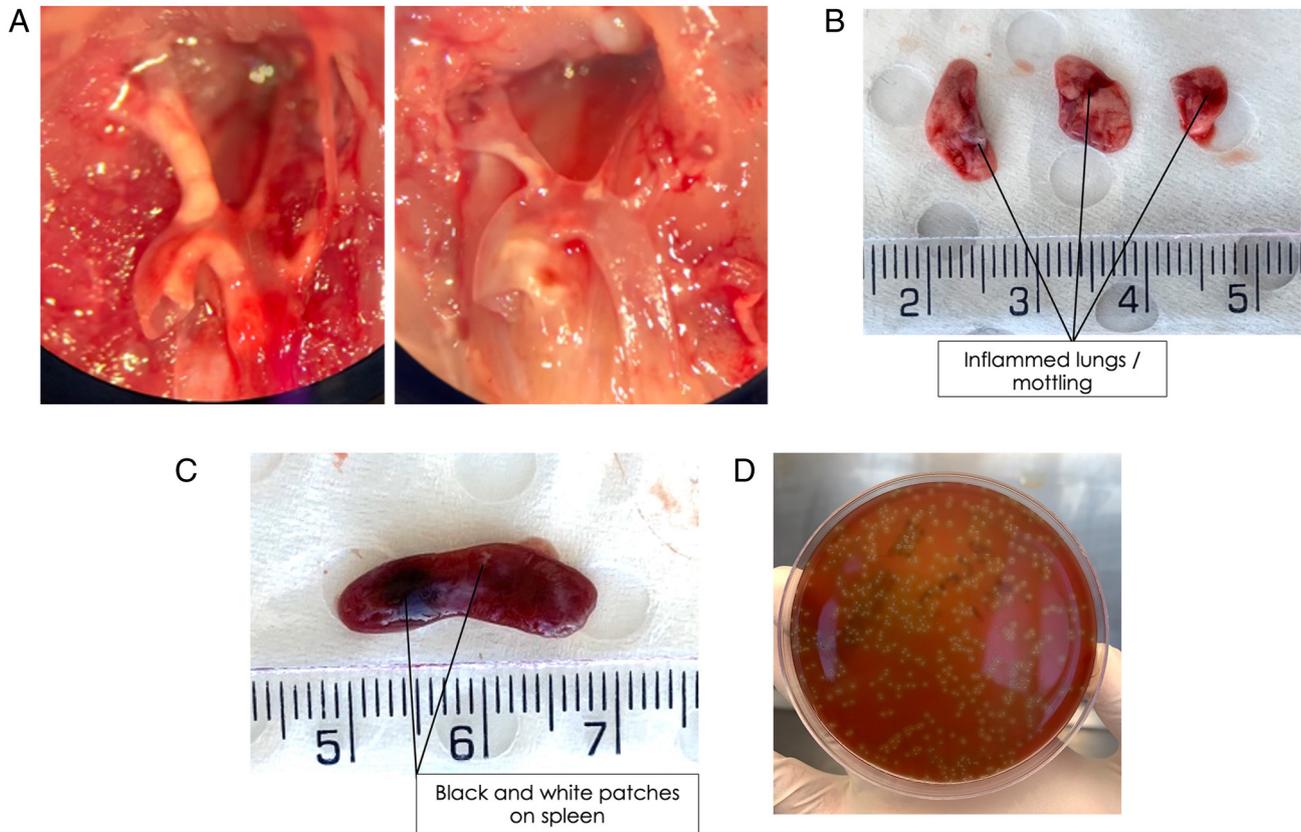


Figure S2. Gene expression of inflammatory mediators in lungs from TIGR4-inoculated animals stratified based on radiological findings. TIGR4-inoculated mice with evidence of respiratory infection confirmed by MRI were compared to mice with no radiological abnormalities at respective timepoints (2, 7 and 28 days PI). Ribonucleic acid (mRNA) expression levels of (A) *IL-6*, (B) *TNF- $\alpha$* , (C) *IL-1 $\beta$* , (D) *IFN- $\gamma$* , (E) *IL-10*, (F) *IL-17A*, (G) *NLRP3*, (H) *IL-18*, (I) *CCL2* and (J) *P2X7* were quantified by real-time polymerase chain reaction and normalised against two housekeeping genes (*GAPDH* and *HPRT*). Solid horizontal line represents the median. (K) Weight loss of TIGR4-inoculated mice stratified according to the absence or presence of respiratory infection confirmed by MRI. MRI, magnetic resonance imaging; *IL-6*, interleukin-6; *TNF- $\alpha$* , tumor necrosis factor- $\alpha$ ; *IL-1*, interleukin 1; *IFN- $\gamma$* , interferon- $\gamma$ ; *IL-10*, interleukin-10; *IL-17A*, interleukin-17A; *NLRP3*, NLR family pyrin domain containing 3; *IL-18*, interleukin-18; *CCL2*, chemokine (C-C motif) ligand 2; *P2X7*, P2X purinoceptor 7.

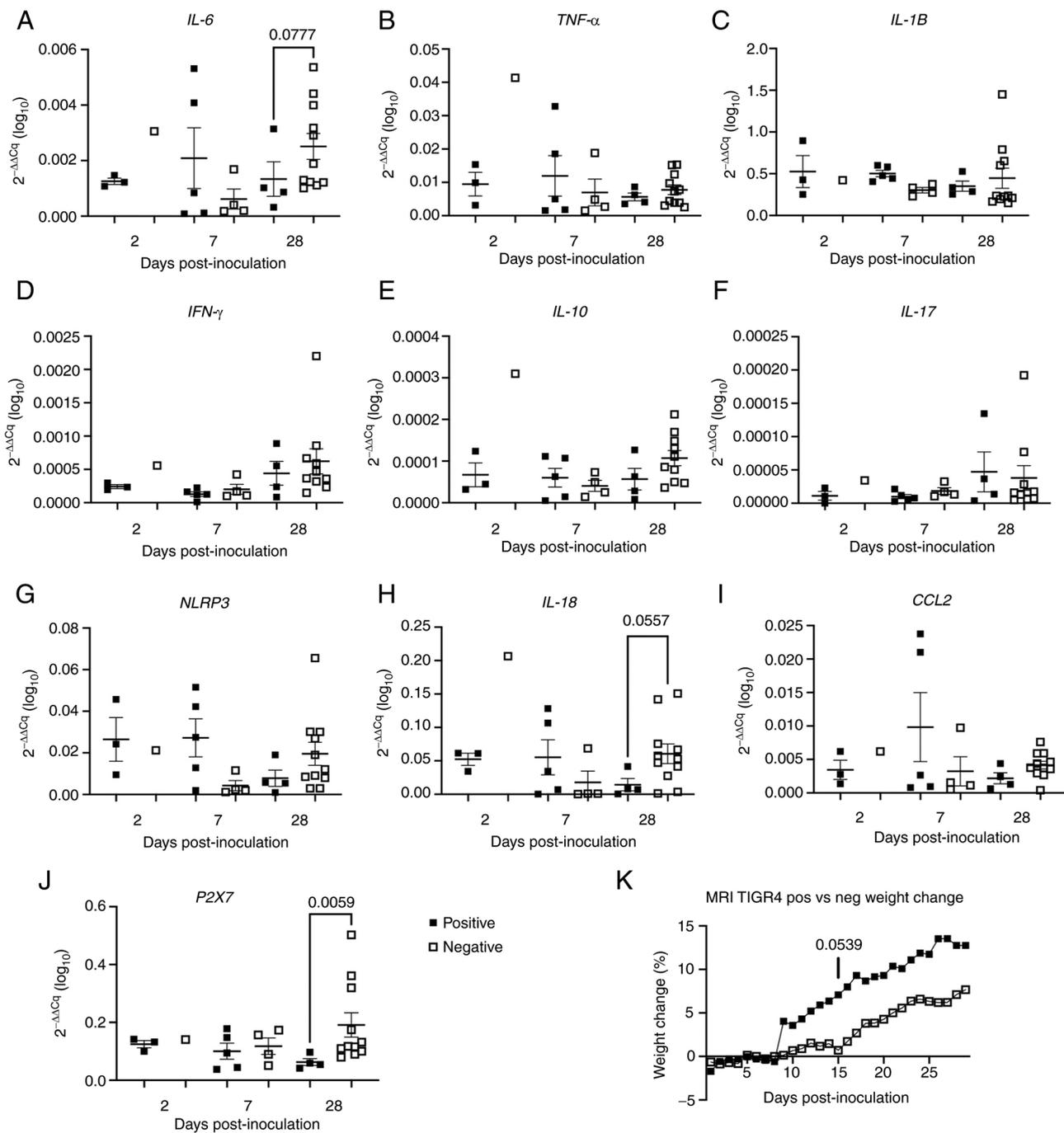


Figure S3. Gene expression of inflammatory mediators in the lungs. Phosphate-buffered saline (control) or TIGR4-inoculated mice were sacrificed at specific time points and RNA was extracted from lung tissues. mRNA expression levels of (A) CCR2, (B) CCL2, (C) NLPR3, (D) P2X7, (E) SMAD7, (F) IL-17A, (G) IL-18 and (H) IL-10 were quantified by real-time polymerase chain reaction and normalised against two housekeeping genes (GAPDH and HPRT). Solid horizontal line represents the median. RNA, ribonucleic acid; CCR2, chemokine (C-C motif) receptor 2; CCL2, chemokine (C-C motif) ligand 2; NLPR3, NLR family pyrin domain containing 3; P2X7, P2X purinoceptor 7; SMAD7, SMAD family member 7; IL-17A, interleukin-17A; IL-18, interleukin-18; IL-10, interleukin-10.

