**SUPPORTING INFORMATION**

## MATERIALS AND METHODS

### *Real Time RT-PCR*

A cDNA fragment of the genes encoding CXCL1, CXCL3, CXCL13 and β-actin was amplified by PCR and cloned into the pCR2.1-TOPO vector (Invitrogen) according to the recommendation of the manufacturer. The constructed plasmids were purified using a QIAprep Spin Miniprep kit (Qiagen) following the manufacturer's instructions. Serial ten-fold dilutions ($10^5$ to $10^1$ molecules) of the plasmids were used to generate the standard curves for quantitative real time PCR (qPCR). The *β-actin* and the *rsp-9* genes were used as an internal reference gene. The following oligonucleotides and annealing temperatures were used: for *β-actin,* 5'-TGG AAT CCT GTG GCA TCC ATG AAA C-3' and 5'-TAA AAC GCA GCT CAG TAA CAG TCC G-3' (60°C, 349 bp); for *gro-1/cxcl1* 5'-TGT TGT GCG AAA AGA AGT GC–3'and 5'-CGA GAC GAG ACC AGG AGA AA-3' (60°C, 249 bp); for *cxcl3* 5'-CTC CAG ACT CCA GCC ACA CT-3' and 5'-GTC ACC GTC AAG CTC TGG AT–3' (60°C, 227 bp); for *cxcl13* 5'-TTC TGG AAG CCC ATT ACA CAA AC-3' and 5'-GCG TAA CTT GAA TCC GAT CTA TGA T-3' (55°C, 96 bp). Cycling conditions for PCR amplifications were 15 s denaturation at 95°C, 30 s annealing at 60°C and 30 s elongation at 72°C for 30 cycles. The qPCR amplification was performed using a LightCycler 480 Real Time PCR system (Roche Applied Science, Mannheim, Germany) and Maxima SYBR Green qPCR Master Mix (Fermentas, St. Leo-Rot, Germany). All qPCR reactions were performed in a 25 µL mixture containing 1/10 volume of cDNA preparation, 1x Maxima SYBR Green qPCR Master Mix and 0.3 µM of each primer. Thermal cycling conditions for qPCR amplifications were performed according to a three-step cycling protocol. The cycling conditions were 10 min initial denaturation at 95°C, amplification and quantification for 40 cycles (denaturation at 95°C for 15 s, annealing at 60°C for 30 s, and extension for 30 s at

72°C with a single fluorescence measurement), melting curve program (60°C-95°C with a heating rate of 0.1°C per second and a continuous fluorescence measurement) and a final cooling step at 40°C. Cycle threshold values for *cxcl1*, *cxcl3* and *cxcl13* were normalized to the housekeeping gene *β-actin*. The data were calculated using the Pfaffl equation (Pfaffl, 2001) and expressed as ratio of relative mRNA expression levels.

***Reference:*** Pfaffl MW (2001) A new mathematical model for relative quantification in real-time RT-PCR. Nucleic Acids Res 29: e45.

***Determination of anti-S. aureus specific serum antibodies***

96-well Nunc-Immuno MaxiSorp microtiter plates (Nunc, Roskilde, Denmark) were coated with 100 µL/well of *S. aureus* Wood 46 cell lysate (adjusted to $10^9$ CFU/mL prior lysis and diluted 10-folds in 0.1 M Carbonate buffer, pH 9.5) and incubated overnight at 4°C. After blocking with PBS-10% FCS for 1 h at room temperature, serial 2-fold dilutions of sera were added and the plates were further incubated for 2 h at room temperature. After extensive washing, 100 µL/well of goat anti-mouse IgG conjugated to horseradish peroxidase (GE healthcare, München, Germany) was added, plates were incubated for 1 h at room temperature, washed and the reaction developed with 100 µL/well of TMB (3,3´,5,5´-Tetramethylbenzidine; Sigma St. Louis, MO, USA) for 30 min at RT. The reaction was stopped with 50 µL of 1 M sulfuric acid (Roth, Karlsruhe, Germany) and the optical density measured at 450 nm versus 570 nm. Endpoint titers were expressed as the reciprocal of the last dilution exhibiting an optical density at 450 nm of 0.1 units above the negative control.

***In vivo depletion of macrophages and neutrophils***

Depletion of macrophages in C57BL/6 mice was performed as previously described (Goldmann et al, 2004). Briefly, C57BL/6 mice were intraperitoneally injected twice with 1

mg of carrageenan type IVλ (Sigma, Deisenhofen, Germany) at day 3 and 1 prior to bacterial challenge (acute phase of infection) or day 26 and 28 after bacterial inoculation (persistent phase of infection). Control mice received 200 µL of sterile PBS. For macrophages depletion of RAG2$^{-/-}$ mice, 1 mg of carrageenan type IVλ was injected intraperitoneally at day 10 and 12 after bacterial inoculation. Depletion of macrophages was verified by flow cytometric analysis of peritoneal cells obtained after washing the peritoneal cavity of treated mice with sterile PBS. Peritoneal cells were stained with PE-conjugated anti-mouse F4/80 mAb (Pharmingen) and analyzed using a FACSCalibur™ flow cytometer (Becton Dickinson).

For depletion of neutrophils in C57BL/6 mice during the acute infection mice received an intravenous injection of 100 µg of monoclonal rat anti-RB6 antibody (clone 8C5) 2 days prior to bacterial inoculation. For depletion of neutrophils during the persistent phase of infection, mice received an intravenous injection of 100 µg of anti-RB6 antibody 28 days post inoculation. Control mice received equivalent amounts of isotype control antibodies in sterile PBS. For depletion of neutrophils in RAG2$^{-/-}$ mice, 100 µg of anti-RB6 antibody were injected intravenously at 10 days post inoculation Depletion of neutrophils was verified by flow cytometric analysis of peripheral blood cells. Peripheral blood was obtained from depleted and control mice after cardiac puncture. After RBC lysis, blood granulocytes were stained with PE-conjugated anti-mouse Gr-1 mAb (Pharmingen) and analysed using a FACSCalibur™ flow cytometer (Becton Dickinson).

***Reference:*** Goldmann O, Rohde M, Chhatwal GS, Medina E (2004) Role of macrophages in host resistance to group A streptococci. Infect Immun 72: 2956-2963

***Flow cytometry***

A single cell suspension was prepared from the spleen and peripheral lymph nodes of infected mice at day 7, 28 and 5 of infection. Erythrocytes were lysed after incubation with ACK

buffer for 5 minutes at room temperature and vigorous washing. Fc receptors were blocked by incubating the spleen cells with anti-mouse CD16/CD32 mAb (BD Pharmingen, San Diego, CA) for 5 minutes at room temperature and the lymphocytes were incubated with fluorochrome-conjugated anti-mouse antibodies (BD Pharmingen) against CD4, CD8, CD45R/B220, CD79b, CD44, or CD62L for 45 minutes at 4°C in the dark. The cells were then thoroughly washed and flow cytometry analysis was performed using the FACSCalibur™ flow cytometer (Becton Dickinson).

***Antigen resting experiments***

Bulk splenocytes isolated from *S. aureus*-infected C57BL/6 mice at 21 days p.i. were injected intravenously into RAG2$^{-/-}$ mice (appr. 5 x 10$^7$ cells). The reconstituted RAG2$^{-/-}$ mice were sacrificed at day 7 and 28 after cell transfer, the spleen removed, transformed in a single cell suspension and splenocytes were restimulated *in vitro* with either different concentrations of heat-killed *S. aureus* or with 1 µg/mL anti-mouse CD3ε mAb plus 1 µg/mL anti-mouse CD28 mAb (eBioscience, San Diego, CA, USA). After 3 days of incubation, the cells were pulsed with 1 µCi of $^3$H-thymidine (Amersham, Buchler, Germany) and 16 to 18 h later the cells were harvested on Filtermats A (Wallac, Freiburg, Germany) using a cell harvester (Inotech, Wohlen, Switzerland). The amount of $^3$H-thymidine incorporation was measured in a gamma scintillation counter (Wallac 1450, MicroTrilux).

**SUPPLEMENTAL FIGURE LEGENDS**

**Figure S1:** Efficiency of neutrophil depletion in *S. aureus*-infected mice. Mice were injected intravenously with 100 µg of anti-mouse RB6 mAb (A and B) or with equivalent amounts of isotype control antibodies (C and D) at day 28 after challenge with 7 x 10$^7$ CFU of *S. aureus*. The efficacy of neutrophil depletion (>90%) was assessed 2 days later by flow cytometry

analysis of peripheral blood using PE-conjugated anti-mouse Gr-1 antibodies. (A and C) Density plots of peripheral blood cell populations according to size (FCS-H) and granularity (SSC-H) co-ordinates. A broken line outlines the neutrophil population. (B and D) Histogram analysis showing the percentage of neutrophils ($Gr\text{-}1^+$).

**Figure S2:** Efficiency of macrophages depletion in *S. aureus*-infected mice. Mice were intraperitoneally injected twice with 1 mg of carrageenan type IVλ (A and B) or with PBS (C and D) at day 26 and 28 after challenge with 7 x $10^7$ CFU of *S. aureus*. The efficacy of macrophage depletion (>95%) was assessed 1 day later by flow cytometry analysis of peritoneal cells using P-conjugated anti-F4/80 mAb. (A and C) Density plots of peritoneal cell populations according to size (FCS-H) and granularity (SSC-H) co-ordinates. Gated by the broken line is the macrophage population. (B and D) Histogram analysis showing the percentage of macrophages ($F4/80^+$).

**Figure S3:** Innate immune response is critical for the control of *S. aureus* during the acute phase of infection but is dispensable during the persistent phase. (A and B) C57BL/6 mice were depleted of neutrophils by receiving an intravenous injection of 100 µg of anti-muse RB6 mAb either 2 days prior (A) or 28 days after (B) challenge with 7 x $10^7$ CFU of *S. aureus*. Control mice received an equivalent amounts of isotype control antibodies in sterile PBS. Bacterial burdens in the kidneys of infected mice were determined 24 h after bacterial inoculation in (A) and 48 h after neutrophil-depletion in (B). (C and D) C57BL/6 mice were depleted of macrophages by intraperitoneal injection with 1 mg of carrageenan type IVλ at day 3 and 1 prior to bacterial challenge (C) or 26 and 28 days after bacterial inoculation (D). Control mice received equivalent volume of PBS. Bacterial burdens in the kidneys of infected mice were determined 48 h after bacterial inoculation in (C) and 24 h after the last

carrageenan dose in (D). Each bar represents the mean ± SD of three independent experiments.

**Figure S4:** Course of *S. aureus* infection in the kidneys of RAG2/IL-2Rγ$^{-/-}$ mice after intravenous inoculation with *S. aureus* (black symbols). The course of *S. aureus* infection in the kidneys of immunocompetent C57BL/6 mice (white symbols) is included for comparison. Each symbol in represents the mean ± SD of five animals per mouse strain and per time point and it is the compilation of three independent experiments.

**Figure S5:** RAG2$^{-/-}$ mice exert some degree of control over bacterial growth during the persistent phase of *S. aureus* infection that is mediated by innate immune mechanisms. (A) RAG2$^{-/-}$ mice were depleted of neutrophils by receiving an intravenous injection of 100 µg of rat anti-RB6 mAb (black bars) 10 days after challenge with 7 x $10^7$ CFU of *S. aureus*. Control mice received equivalent amounts of isotype control antibodies in sterile PBS (white bars). Bacterial burdens in the kidneys of infected mice were determined 48 h after neutrophil-depletion. (B) Histogram analysis showing the efficiency of neutrophil depletion in peripheral blood of treated mice. The amount of neutrophils in peripheral blood of isotype-treated mice is depicted in the upper panel and in anti-RB6-treated mice in the lower panel. (C) RAG2$^{-/-}$ mice were depleted of macrophages by intraperitoneal injection with 1 mg of carrageenan type IVλ at 10 and 12 days after bacterial inoculation (black bars). Control mice received equivalent volume of vehicle PBS (white bars). Bacterial burdens in the kidneys of infected mice were determined 24 h after the last carrageenan dose. Each bar represents the mean ± SD of the compilation of three independent experiments. (D) Histogram analysis showing the efficiency of macrophage depletion in the peritoneal cavity of treated mice. The amount of macrophages in the peritoneal cavity of vehicle-treated mice is depicted in the upper panel and in carrageenan-treated mice in the lower panel.

**Figure S6:** Confirmation of B and T cells reconstitution of RAG2$^{-/-}$ mice after adoptive transfer of splenocytes from C57BL/6 donor mice. RAG2$^{-/-}$ recipient mice were reconstituted 48 h prior to *S. aureus* inoculation with splenocytes (appr. 5 x $10^7$ cells) obtained from immunocompetent C57BL/6 mice. Splenocytes isolated from C57BL/6 donor mice (left panels), RAG2$^{-/-}$ recipient mice (middle panels) and reconstituted RAG2$^{-/-}$ mice at day 58 after cell transfer (right panels) were stained with antibodies against CD45R/B220 (B cells), CD4 or CD8 and subjected to flow cytometry. Numbers within histograms indicate the mean percentage of the specific cell population (3 mice per group). The reconstitution efficiency was ~50% for B cells, 67% for CD4$^+$ T cells and56% for CD8$^+$ T cells.

**Figure S7:** Serum anti-*S. aureus* IgG titers in uninfected and *S. aureus* infected mice at day 56 of infection. Each bar represents the mean ± SD of the reciprocal IgG end point titer of 9-18 mice per group. ***, $p < 0.001$.

**Figure S8:** Purity of sorted B cells. The purity of the sorted B cells was analyzed by flow cytometry using anti-CD45R antibodies. Histogram analysis showing the percentage of B cells in whole spleen (A), in sorted B cells (B) or in the non-B cells fraction (C). The purity of sorted B cells was >95.

**Figure S9:** Purity of sorted T cells. The purity of the sorted T cells was analyzed by flow cytometry using anti-CD4 and anti-CD8 antibodies. Histogram analysis showing the percentage of T cells in whole spleen (A), in sorted T cells (B) or in the non-T cells fraction (C). The purity of sorted T cells was >95%.

**Table SI.** Genes with increased expression in the kidneys of *S. aureus* infected mice at day 2 (Acute) and day 28 (Persistent) of infection when compared with uninfected control animals.

| Name | Gene Bank ID | Description | Fold change | |
|---|---|---|---|---|
| | | | Acute | Persistent |
| ***Chemokines and chemokine receptors*** | | | | |
| Cxcl2 (Mip-2α) | NM_009140 | chemokine (C-X-C motif) ligand 2 | 45.4 | 38.1 |
| Cxcl1 (KC) | NM_008176 | chemokine (C-X-C motif) ligand 1 | 19.4 | 5.4 |
| Cxcl3 (Mip-2β) | NM_203320 | chemokine (C-X-C motif) ligand 3 | 18 | 6.8 |
| Ccl28 | NM_020279 | chemokine (C-C motif) ligand 28 | 9.5 | - |
| Cxcl13 | NM_018866 | chemokine (C-X-C motif) ligand 13 | 6.4 | 5.6 |
| Ccl3 (Mip-1α) | NM_011337 | chemokine (C-C motif) ligand 3 | 6.5 | 10.1 |
| Cxcl5 | BC024392 | chemokine (C-X-C motif) ligand 5 | 5.1 | 13.7 |
| Ccl9 | NM_011338 | chemokine (C-C motif) ligand 9 | 3.2 | 5 |
| Ccl4 (Mip-1β) | NM_013652 | chemokine (C-C motif) ligand 4 | 2.7 | 3.7 |
| Ccl6 | NM_009139 | chemokine (C-C motif) ligand 6 | 2.5 | 4.8 |
| Ccl12(MCP-5) | NM_011331 | chemokine (C-C motif) ligand 12 | - | 4.3 |
| Ccl19 (Mip-3α) | NM_011888 | chemokine (C-C motif) ligand 19 | - | 2.3 |
| Ccl5 (RANTES) | NM_013653 | chemokine (C-C motif) ligand 5 | - | 4.6 |
| Ccl7 (MCP-3) | NM_013654 | chemokine (C-C motif) ligand 7 | - | 2.5 |
| Ccl8 (MCP-2) | NM_021443 | chemokine (C-C motif) ligand 8 | - | 25 |
| Cxcl9 (Mig) | NM_008599 | chemokine (C-X-C motif) ligand 9 | - | 4.5 |
| Ccr1 | NM_009912 | chemokine (C-C motif) receptor 1 | 3.15 | 4 |
| Ccr5 | NM_009917 | chemokine (C-C motif) receptor 5 | 2.3 | 4.9 |
| Ccr2 | NM_009915 | chemokine (C-C motif) receptor 2 | - | 4.4 |
| Cx3cr1 | NM_009987 | chemokine (C-X3-C) receptor 1 | - | 2.8 |
| Cxcr4 | NM_009911 | chemokine (C-X-C motif) receptor 4 | - | 3.8 |

| | | | | |
|---|---|---|---|---|
| Cxcr6 | NM_030712 | chemokine (C-X-C motif) receptor 6 | - | 3.4 |
| ***Cytokines and cytokine receptors*** | | | | |
| Il6 | NM_031168 | interleukin 6 | 27.1 | 2.4 |
| Il1b | NM_008361 | interleukin 1 beta | 4.1 | 9.7 |
| Ltb | NM_008518 | lymphotoxin B | - | 3.7 |
| Il1rn | NM_001039701 | interleukin 1 receptor antagonist | 3.4 | 3.2 |
| Il10ra | NM_008348 | interleukin 10 receptor, alpha | - | 2 |
| Il18r1 | NM_008365 | interleukin 18 receptor 1 | - | 3.8 |
| Il1r2 | NM_010555 | interleukin 1 receptor, type II | 2.1 | 2.4 |
| Il2rg | NM_013563 | interleukin 2 receptor, gamma chain | - | 3.3 |
| ***Clusters of differentiation*** | | | | |
| Cd14 | NM_009841 | CD14 antigen | 10.6 | 7 |
| Cd53 | NM_007651 | CD53 antigen | 2.4 | 8.2 |
| Cd44 | NM_001039 | CD44 antigen | 2.3 | 8.4 |
| Cd74 | NM_001042605 | CD74 antigen | 2.2 | 4.3 |
| Cd300lf | NM_145634 | CD300 antigen like family member F | 2.1 | 5.6 |
| Cd68 | NM_009853 | CD68 antigen | - | 6 |
| Cd79b | NM_008339 | CD79B antigen | - | 5.7 |
| Cd3g | NM_009850 | CD3 antigen, gamma polypeptide | - | 4.9 |
| Tcrg-V3 | ENSMUST00000103558 | T-cell receptor gamma, variable 3 | - | 6.7 |
| Cd52 | NM_013706 | CD52 antigen | - | 4.8 |
| Cd163l1 | NM_172909 | CD163 molecule-like 1 | - | 4.4 |
| Thy1 | NM_009382 | Thymus cell antigen 1, theta | - | 4.2 |
| Cd48 | NM_007649 | CD48 antigen | - | 3.7 |
| Cd83 | NM_009856 | CD83 antigen | - | 3.3 |
| Cd84 | NM_013489 | CD84 antigen | - | 3.3 |
| Cd72 | NM_0011103 | CD72 antigen | - | 3.2 |
| Cd86 | NM_019388 | CD86 antigen | - | 3 |
| Cd300lb | NM_199221 | CD300 antigen like family member B | - | 3.2 |
| Cd274 | NM_021893 | CD274 antigen | - | 3 |
| Cd3d | NM_013487 | CD3 antigen, delta polypeptide | - | 2.5 |
| Cd38 | NM_007646 | CD38 antigen | - | 2.4 |
| Cd5 | NM_007650 | CD5 antigen | - | 2.2 |
| Cd37 | NM_007645 | CD37 antigen | - | 2.2 |

***Immunoglobulins***

| | | | | |
|---|---|---|---|---|
| Ighg1 | ENSMUST00000103419 | immunoglobulin heavy constant gamma 1 (G1m marker) | - | 426 |
| Igh-6 | BC018365 | immunoglobulin heavy chain complex | - | 154 |
| Ighg | BC010327 | immunoglobulin heavy chain (gamma polypeptide) | - | 90.1 |
| Igh-3 | BC092269 | immunoglobulin heavy chain 3 (serum IgG2b) | - | 62.3 |
| Igl-J2 | BC119450 | immunoglobulin lambda chain, joining region 2 | - | 34.7 |
| Igl-V1 | BC119450 | immunoglobulin lambda chain, variable 1 | - | 25 |
| Igk | ENSMUST00000103320 | immunoglobulin kappa chain complex | - | 22 |
| Igk-V28 | V00810 | immunoglobulin kappa chain variable 28 (V28) | - | 13.3 |
| Igh-1a | BC110346 | immunoglobulin heavy chain 1a (serum IgG2a) | - | 13.2 |
| Igj | BC006026 | immunoglobulin joining chain | - | 17 |
| Igk-V21 | D29670 | immunoglobulin kappa chain variable 21 (V21) | - | 8.2 |
| Igk-C | BC080787 | immunoglobulin kappa chain, constant region | - | 7.4 |
| Igh | BC011342 | immunoglobulin heavy chain complex | - | 3.7 |
| Igk-V1 | AB001737 | immunoglobulin kappa chain variable 21 (V21) | - | 2.6 |
| Igk-V38 | M18237 | immunoglobulin kappa chain variable 38(V38) | - | 2.4 |

***Complement system and complement receptors***

| | | | | |
|---|---|---|---|---|
| C3 | NM_009778 | complement component 3 | 4.4 | 3.8 |
| C4b | NM_009780 | complement component 4B | 4.2 | 3.7 |
| C1qa | NM_007572 | complement component 1, q subcomponent, alpha polypeptide | - | 5.2 |
| C1qb | NM_009777 | complement component 1, q subcomponent, beta | - | 4.9 |

| | | | | |
|---|---|---|---|---|
| | | polypeptide | | |
| C1qc | NM_007574 | complement component 1, q subcomponent, C chain | - | 5.9 |
| C3ar1 | NM_009779 | complement component 3a receptor 1 | - | 3.3 |
| C5ar1 | NM_007577 | complement component 5a receptor 1 | - | 3 |
| ***Fc receptors*** | | | | |
| Fcgr1 | NM_010186 | Fc receptor, IgG, high affinity I | 2.3 | 7 |
| Fcgr2b | NM_001077189 | Fc receptor, IgG, low affinity IIb | - | 2 |
| Fcgr3 | NM_010188 | Fc receptor, IgG, low affinity III | 2.5 | 8 |
| Fcgr4 | NM_144559 | Fc receptor, IgG, low affinity IV | 2.4 | 5.2 |
| Fcer1g | NM_010185 | Fc receptor, IgE, high affinity I, gamma polypeptide | - | 6 |
| ***Toll-like receptors*** | | | | |
| Tlr1 | AF316985 | toll-like receptor 1 | - | 4.2 |
| Tlr2 | NM_011905 | toll-like receptor 2 | - | 3.3 |
| Tlr4 | NM_021297 | toll-like receptor 4 | 2.1 | 2.1 |
| Tlr13 | NM_205820 | toll-like receptor 13 | - | 2.4 |
| ***C-type lectin receptors*** | | | | |
| Clec4d | NM_010819 | C-type lectin domain family 4, member d | 5.9 | 21 |
| Clec4e | NM_019948 | C-type lectin domain family 4, member e | 4.9 | 16.5 |
| Clec2h | NM_053165 | C-type lectin domain family 2, member h | - 4.9 | 3 |
| Clec4a2 | NM_011999 | C-type lectin domain family 4, member a2 | - | 5.3 |
| Clec4a3 | NM_153197 | C-type lectin domain family 4, member a3 | - | 7 |
| Clec4n | NM_020001 | C-type lectin domain family 4, member n | - | 12 |
| Clec5a | NM_001038604 | C-type lectin domain family 5, member a | - | 2.2 |
| Clec7a | NM_020008 | C-type lectin domain family 7, member a | - | 8.4 |

***Histocompatibility complex***

| | | | | |
|---|---|---|---|---|
| H2-D1 | NM_010380 | histocompatibility 2, D region locus 1 (Class I) | 3 | 2.1 |
| H2-K1 | NM_001001892 | histocompatibility 2, K1, K region (class I) | 3.2 | 2.4 |
| H2-M3 | NM_013819 | histocompatibility 2, M region locus 3 (class I) | - | 2.1 |
| H2-Q7 | X05389 | histocompatibility 2, Q region locus 7 (class I) | - | 2.4 |
| H2-Aa | NM_010378 | histocompatibility 2, class II antigen A, alpha | - | 3.1 |
| H2-Ab1 | NM_207105 | histocompatibility 2, class II antigen A, beta 1 | 2.8 | 3.7 |
| H2-DMa | BC001996 | histocompatibility 2, class II, locus DMa | - | 4.7 |
| H2-DMb1 | NM_010387 | histocompatibility 2, class II, locus Mb1 | 2.1 | 3.8 |
| H2-DMb2 | BC052864 | histocompatibility 2, class II, locus Mb2 | 2.1 | 5.6 |
| H2-Eb1 | NM_010382 | histocompatibility 2, class II antigen E beta | - | 3.8 |

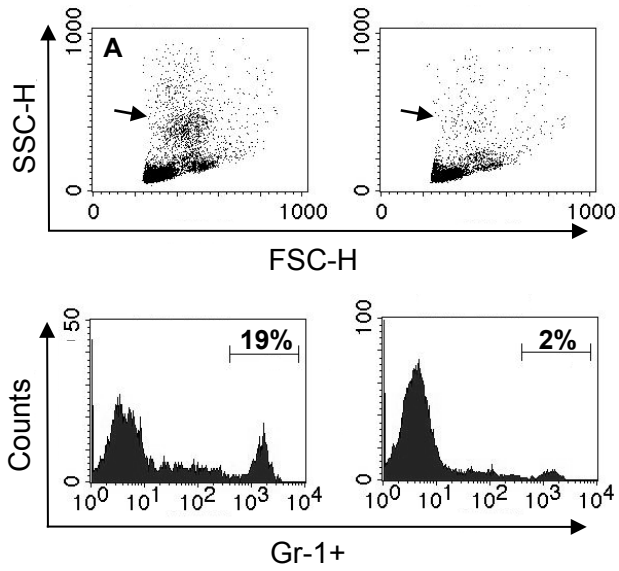
***Other immune response-related genes***

| | | | | |
|---|---|---|---|---|
| S100a4 | NM_011311 | S100 calcium binding protein A4 | - | 2.86 |
| S100a8 | NM_013650 | S100 calcium binding protein A8 (calgranulin A) | 52.5 | 78.4 |
| S100a9 | NM_009114 | S100 calcium binding protein A9 (calgranulin B) | 51.9 | 96.4 |
| Saa1 | NM_011314 | serum amyloid A 1 | 47.5 | 8.3 |
| Saa2 | NM_011314 | serum amyloid A 2 | 9.5 | 2.5 |
| Saa3 | NM_011315 | serum amyloid A 3 | 30 | 58.5 |
| Ptgs2 | NM_011198 | prostaglandin-endoperoxide synthase 2 | 14 | 6.5 |
| Socs3 | NM_007707 | suppressor of cytokine signaling 3 | 9.8 | 4.6 |
| Tcrg-V3 | ENSMUST00000103558 | T-cell receptor gamma, variable 3 | - | 6.7 |
| Serpina1a | NM_009243 | serine (or cysteine) peptidase inhibitor, clade A, member 1a | 2.5 | - |
| Serpina1b | NM_009244 | serine (or cysteine) preptidase inhibitor, clade A, member 1b | 3 | - |

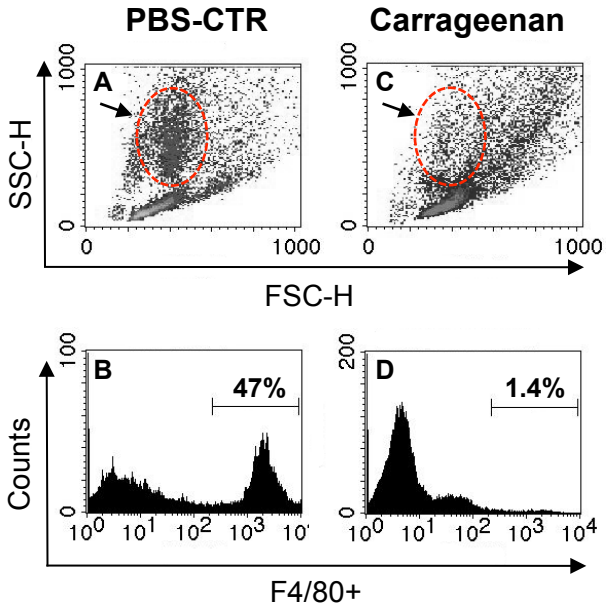
| | | | | |
|---|---|---|---|---|
| Serpina3g | NM_009251 | serine (or cysteine) peptidase inhibitor, clade A, member 3G | 5 | 11.6 |
| Serpina3m | NM_009253 | serine (or cysteine) peptidase inhibitor, clade A, member 3M | 3.1 | - |
| Serpina3n | NM_009252 | serine (or cysteine) peptidase inhibitor, clade A, member 3N | 9 | - |
| Serpina10 | NM_144834 | serine (or cysteine) peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 10 | 7.2 | - |
| Arg1 | NM_007482 | arginase 1 | 5.3 | 19.1 |
| Arg2 | NM_009705 | arginase type II | 3.8 | - |
| Tnfrsf1b | NM_011610 | tumor necrosis factor receptor superfamily, member 1b | - | 3 |
| Tnfrsf12a | NM_013749 | tumor necrosis factor receptor superfamily, member 12a | 2.7 | - |
| Tnfrsf13b | AK155178 | tumor necrosis factor receptor superfamily, member 13b | - | 2.4 |
| Tnfrsf21 | NM_178589 | tumor necrosis factor receptor superfamily, member 21 | 3.1 | - |
| Tnfaip3 | NM_009397 | tumor necrosis factor, alpha-induced protein 3 | - | 2.4 |
| Tnfaip8l2 | NM_027206 | tumor necrosis factor, alpha-induced protein 8-like 2 | - | 3.4 |
| Tnfsf13b | NM_033622 | tumor necrosis factor (ligand) superfamily, member 13b | - | 2.5 |
| Cadm1 | NM_001025600 | cell adhesion molecule 1 | - | 2.2 |
| Csf2rb | NM_007780 | colony stimulating factor 2 receptor, beta, low-affinity (granulocyte-macrophage) | 2.3 | 5.1 |
| Csf2rb2 | NM_007781 | colony stimulating factor 2 receptor, beta 2, low-affinity (granulocyte-macrophage) | 2.1 | 3.5 |
| Csf3r | NM_007782 | colony stimulating factor 3 receptor | - | 3.5 |

| | | | | |
|---|---|---|---|---|
| | | (granulocyte) | | |
| Icam1 | NM_010493 | intercellular adhesion molecule 1 | 2.1 | 2.5 |
| Ptger4 | BC009023 | prostaglandin E receptor 4 (subtype EP4) | - | 2.2 |
| Trem1 | NM_021406 | triggering receptor expressed on myeloid cells 1 | 2 | 3 |
| Trem2 | NM_031254 | triggering receptor expressed on myeloid cells 2 | - | 3 |
| Vcam1 | NM_011693 | vascular cell adhesion molecule 1 | - | 4.2 |
| Ncf1 | NM_010876 | neutrophil cytosolic factor 1 | 2.1 | 4.3 |
| Ncf2 | NM_010877 | neutrophil cytosolic factor 2 | - | 2.7 |
| Ncf4 | NM_008677 | neutrophil cytosolic factor 4 | - | 3.1 |

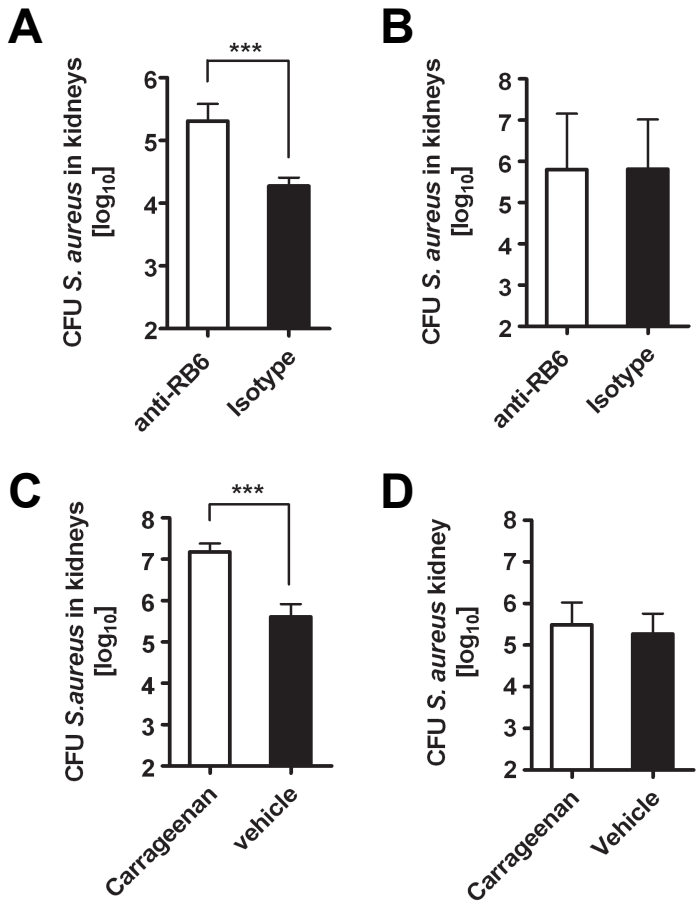
# Supplemental Figure S1



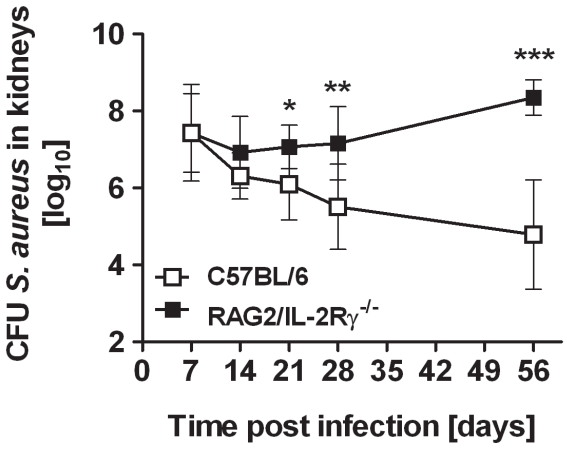
# Supplemental Figure S2



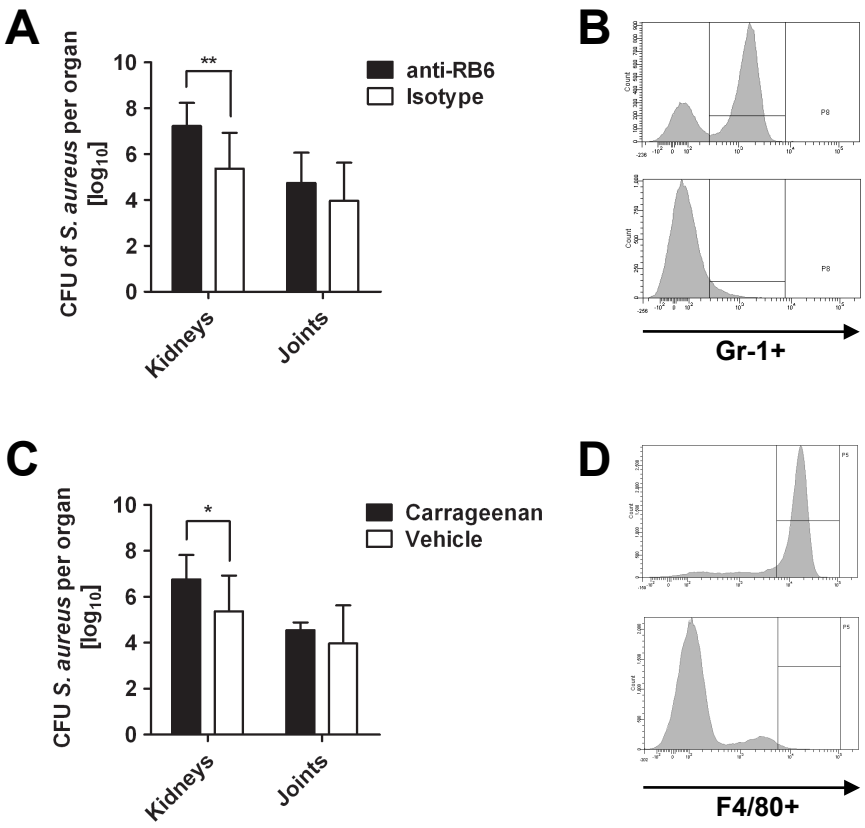
# Supplemental Figure S3



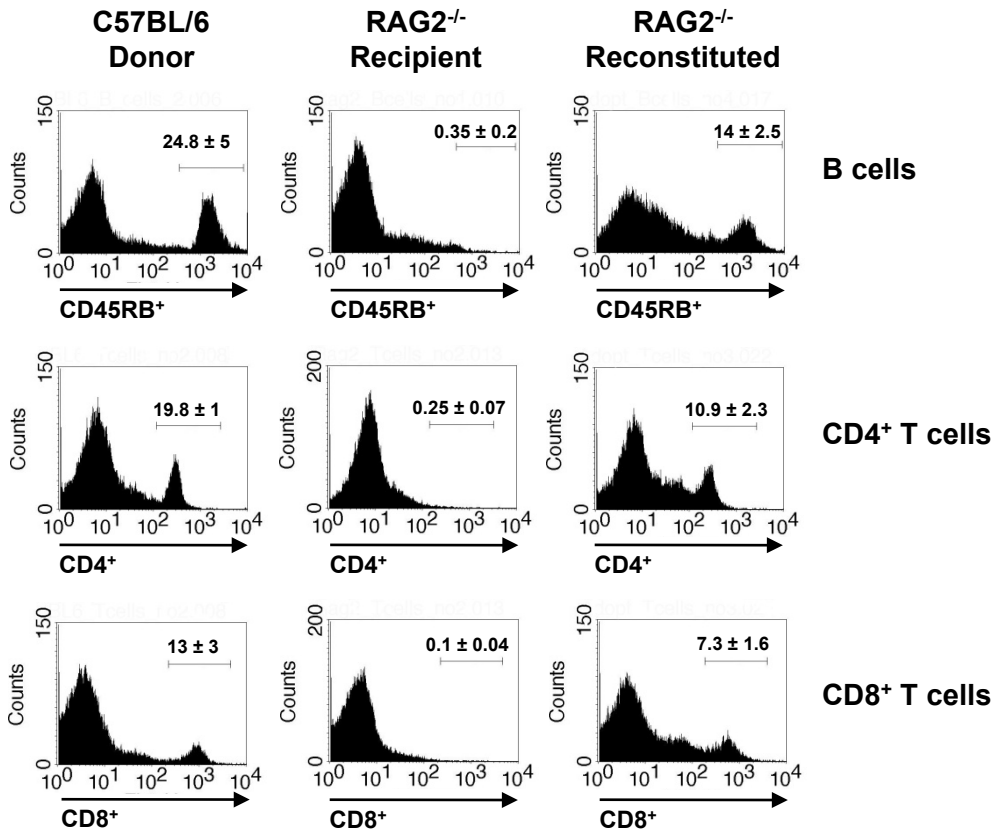
# Supplemental Figure S4



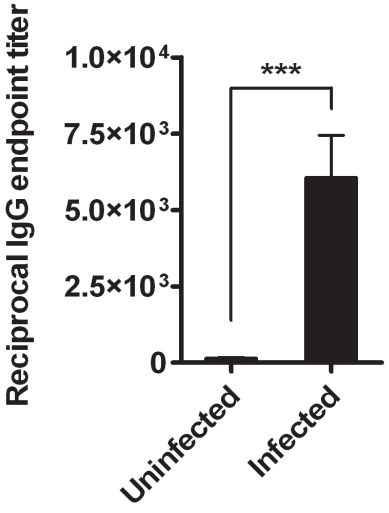
# Supplemental Figure S5



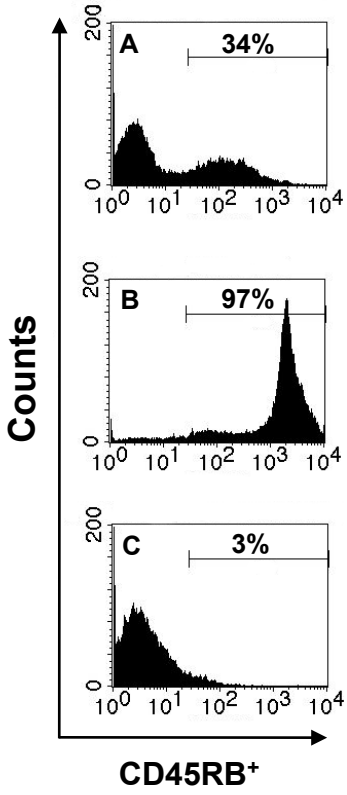
# Supplemental Figure S6



# Supplemental Figure S7



# Supplemental Figure S8



# Supplemental Figure S9