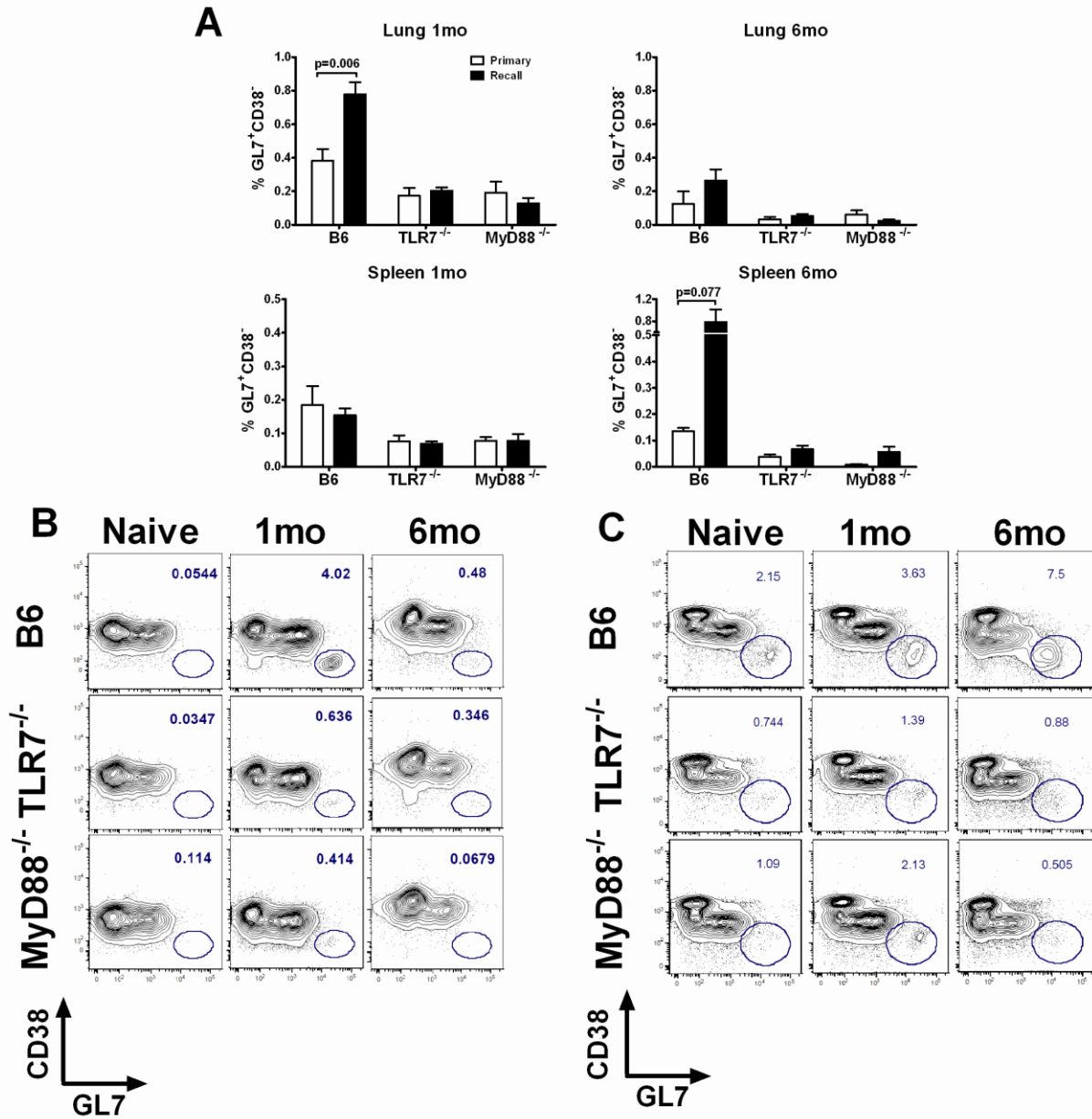
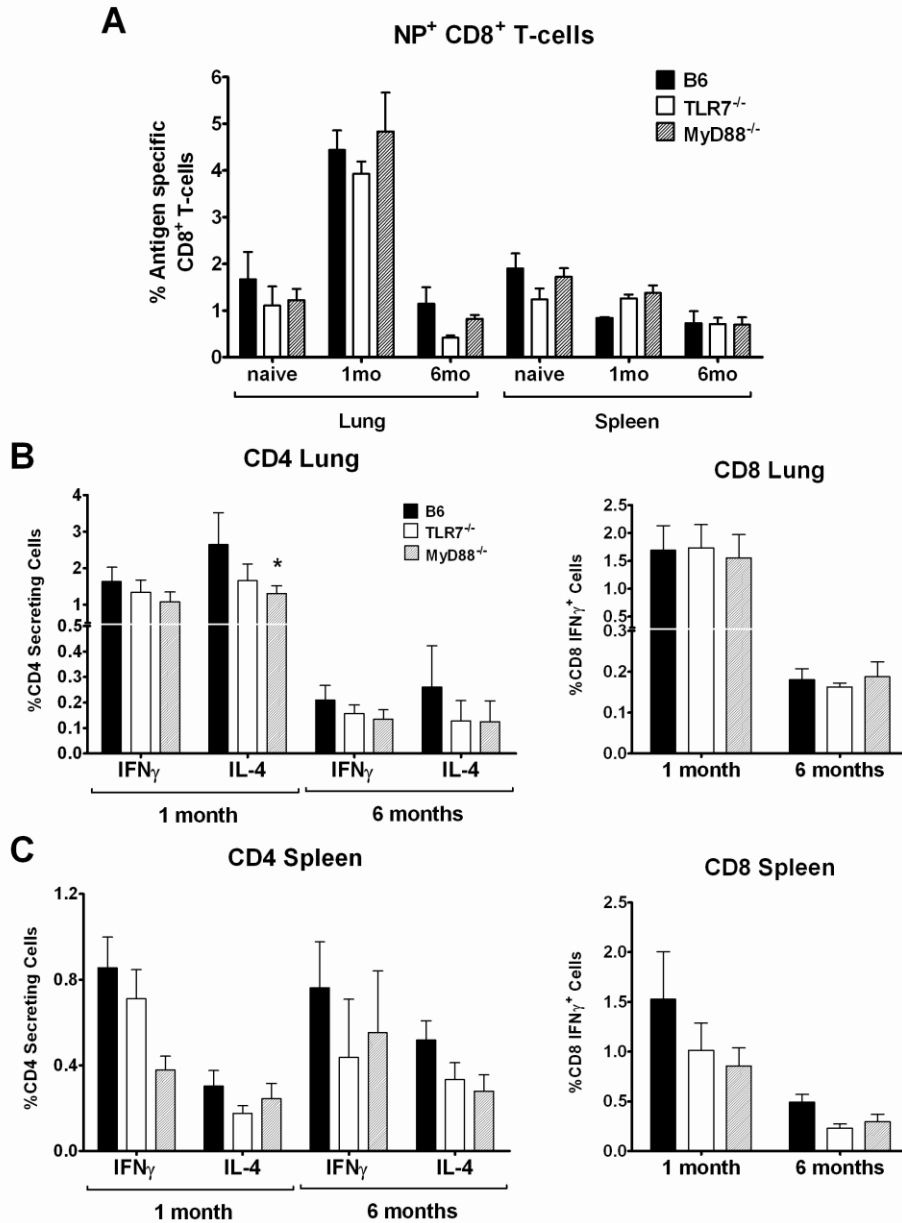


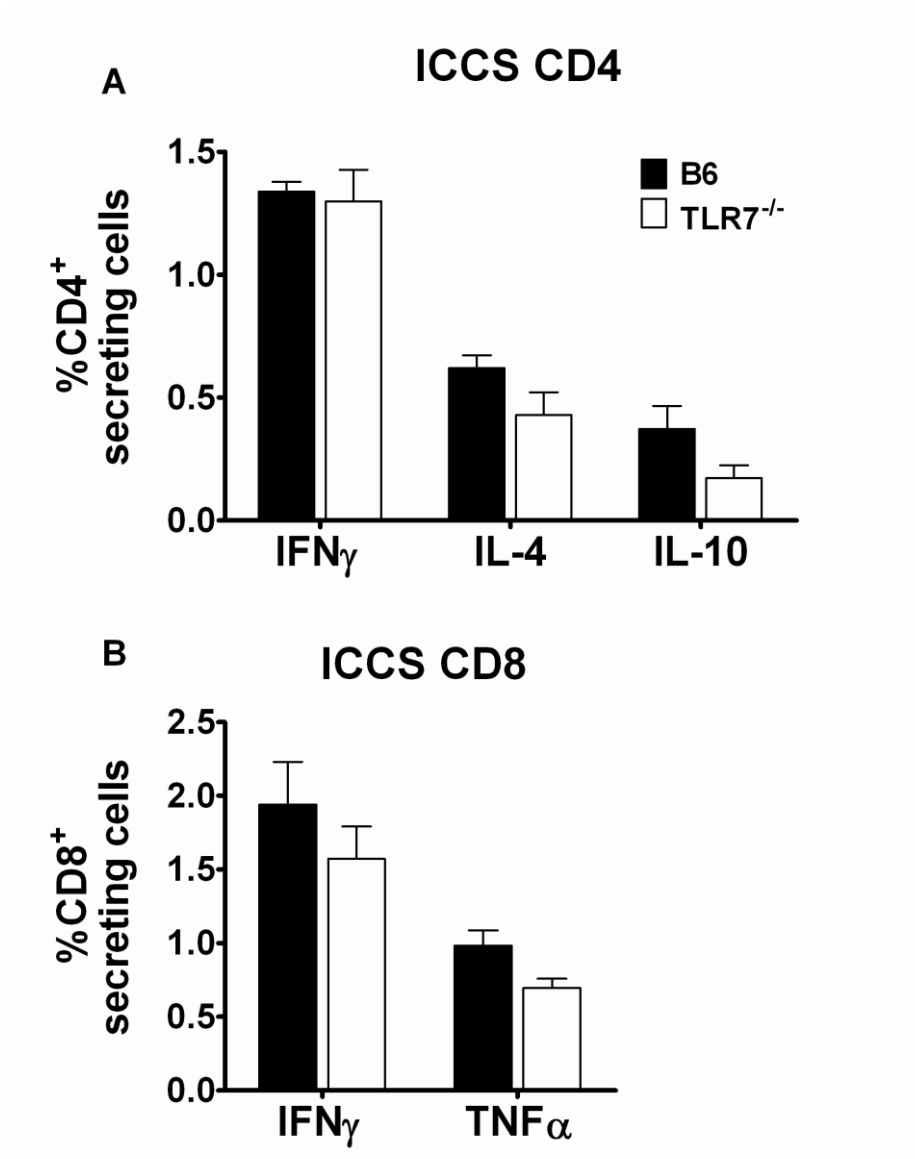
**Supplemental Figure 1: TLR7<sup>-/-</sup> and MyD88<sup>-/-</sup> mice had comparable levels of PR8-specific CD8 T-cells following IAV infection.** Mice (n≥4) were infected with 25 MID<sub>50</sub> of PR8 virus and lungs and spleens were harvested at the time points indicated. NP tetramer-binding CD8<sup>+</sup> T-cells were analyzed by flow cytometry and shown as %PR8-specific CD8 T-cells out of total CD8 T-cells.



**Supplemental Figure 2: TLR7<sup>-/-</sup> and MyD88<sup>-/-</sup> had impaired GC reaction following a lethal challenge.** Mice ( $n \geq 6$ ) were infected with 25 MID<sub>50</sub> of PR8 then challenged with 100 MLD<sub>50</sub> of PR8 at either 1 or 6 months following primary infection. Lung, spleen and BM were harvested 5 days post-challenge. (A) B-cells entering GC reactions (CD19<sup>+</sup>IgD<sup>-</sup>GL7<sup>+</sup>CD38<sup>-</sup>) in lung and spleen were measured by flow cytometry. GC-B cells from primary infection (white bar) or post-challenge (filled bar) at each time point are shown. Data are shown as %GC B-cells out of total CD19<sup>+</sup> cells gated. (B-C) Representative dot plots of the recall responses of CD19<sup>+</sup>IgD<sup>-</sup> cells are shown for both lung (B) and spleen (C). Numbers represent % of CD19<sup>+</sup>IgD<sup>-</sup> cells.



**Supplemental Figure 3: TLR7<sup>-/-</sup> and MyD88<sup>-/-</sup> mice had comparable levels of PR8-specific and cytokine secreting T-cells following challenge.** (a) Mice (n≥4) were infected with 25 MID<sub>50</sub> of PR8 or mock-infected with PBS (naïve) and then challenged with 100 MLD<sub>50</sub> of PR8 at either 1 or 6 months following primary infection. Lungs and spleens were harvested 5 days following challenge. (A) NP tetramer-binding CD8<sup>+</sup> T-cells were analyzed by flow cytometry and shown as % PR8-specific CD8<sup>+</sup> T-cells out of total CD8<sup>+</sup> T-cells. (B-C) Cells were stained ex-vivo for cytokine production in both lung (B) and spleen (C). Data is shown as % CD4<sup>+</sup> or CD8<sup>+</sup> T-cell secreting the cytokine indicated.



**Supplemental Figure 4: The T-cell response in vaccinated mice was comparable following vaccination in the presence or absence of TLR7 signaling.** Mice (n=5) were vaccinated i.m. with pandemic 2009 Cal/07 split vaccine. Spleens were harvested 10 days following vaccination. Collected splenocytes were infected for 1hr with Cal/08 virus at 0.1 MOI and incubated for 5 days. Intracellular cytokine production from CD4<sup>+</sup> T-cells (A) or CD8<sup>+</sup> T-cells (B) was measured by flow cytometry.