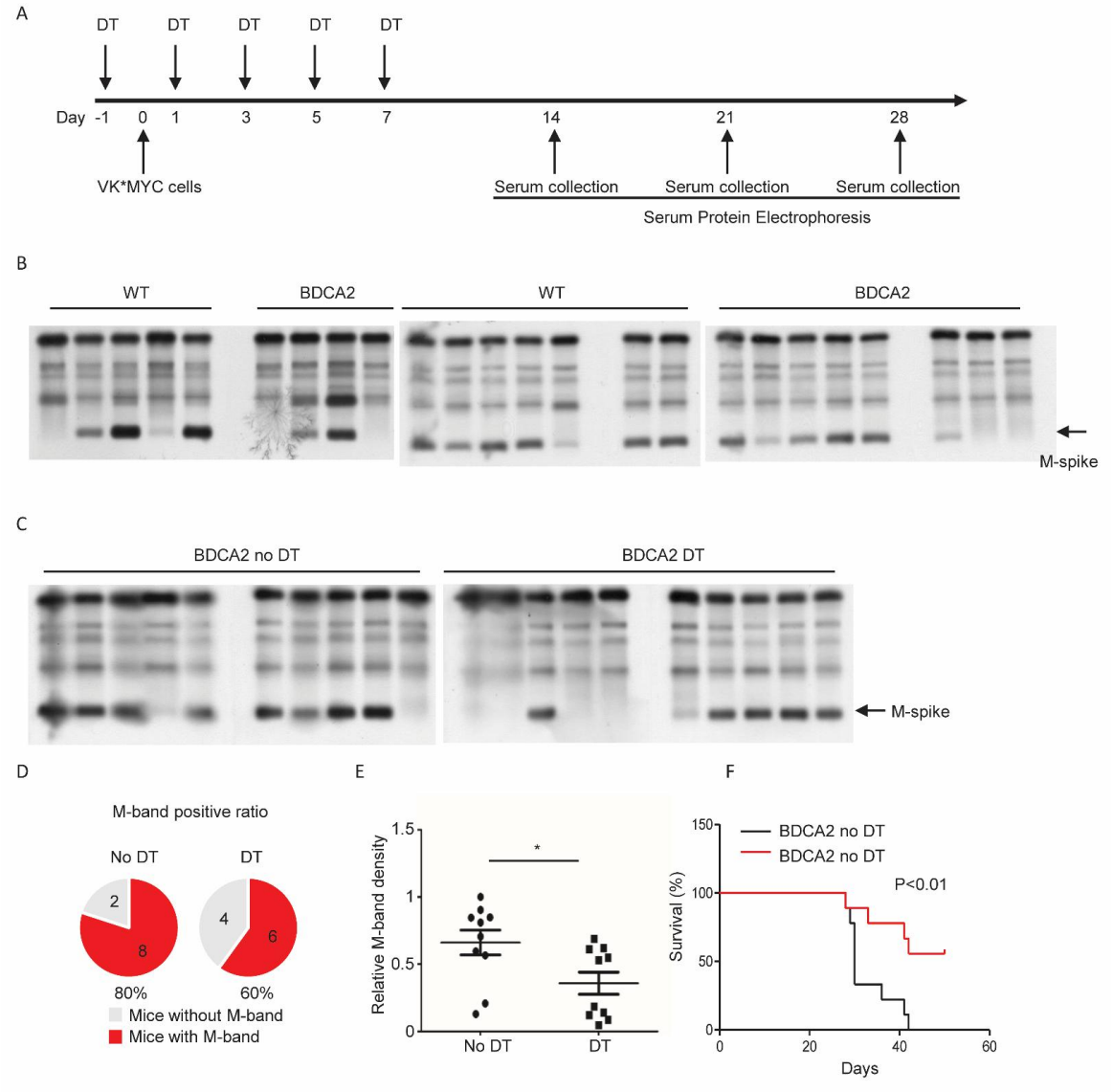
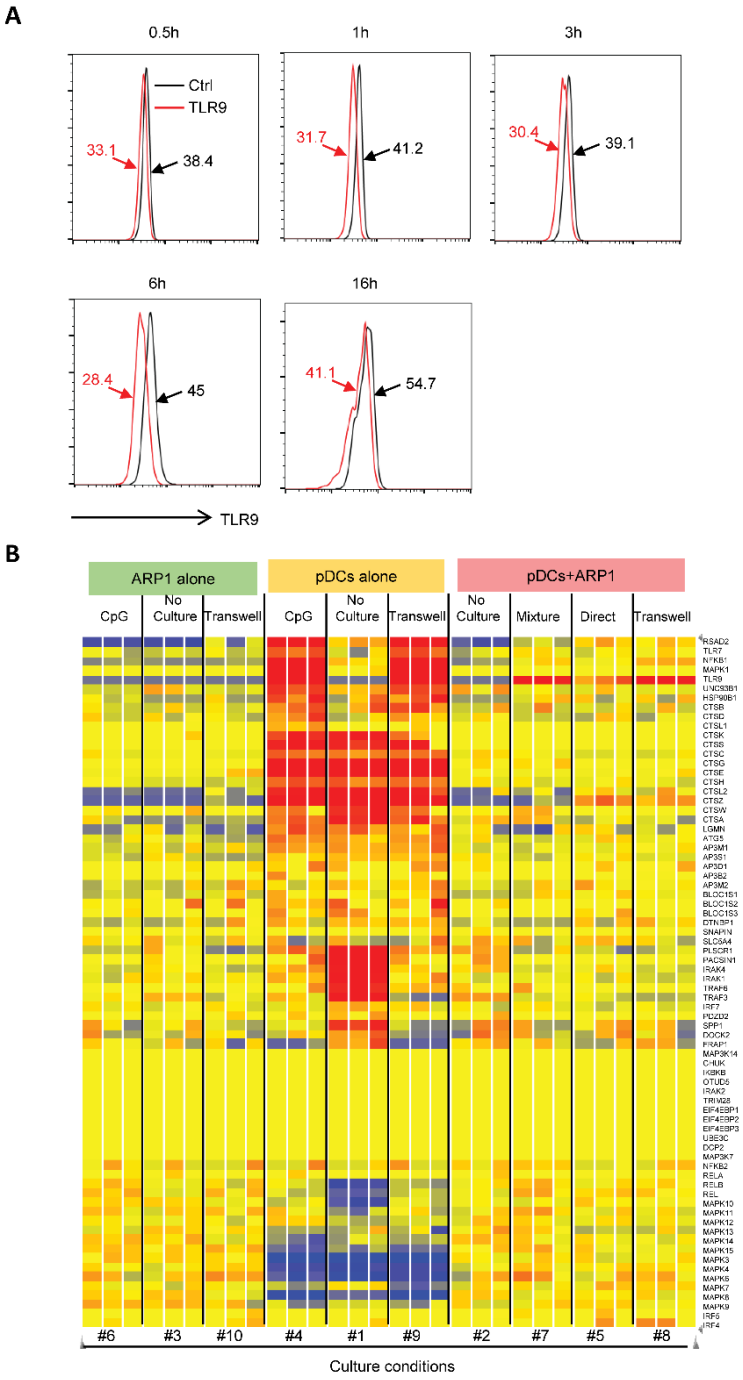
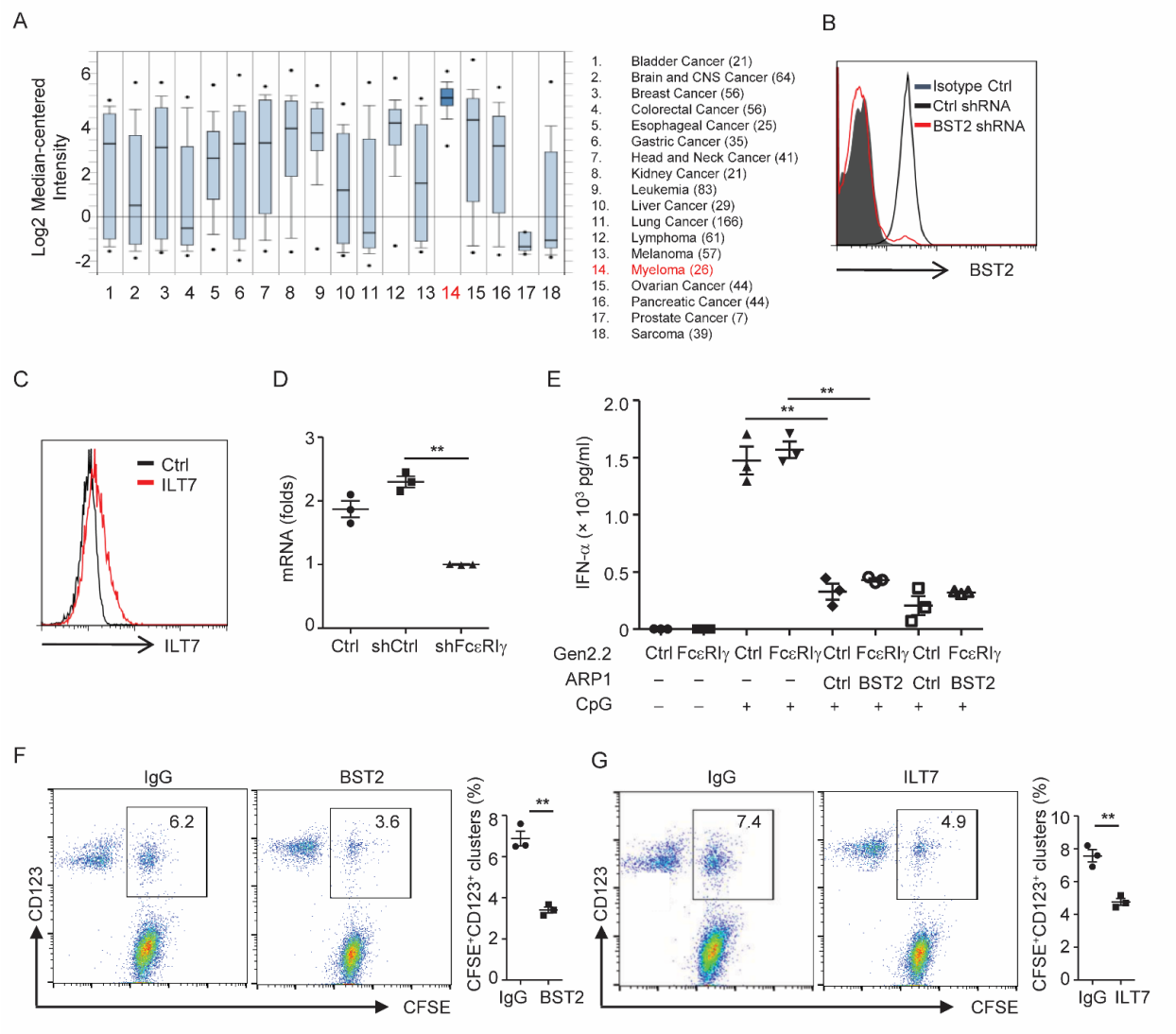
Supplemental Data



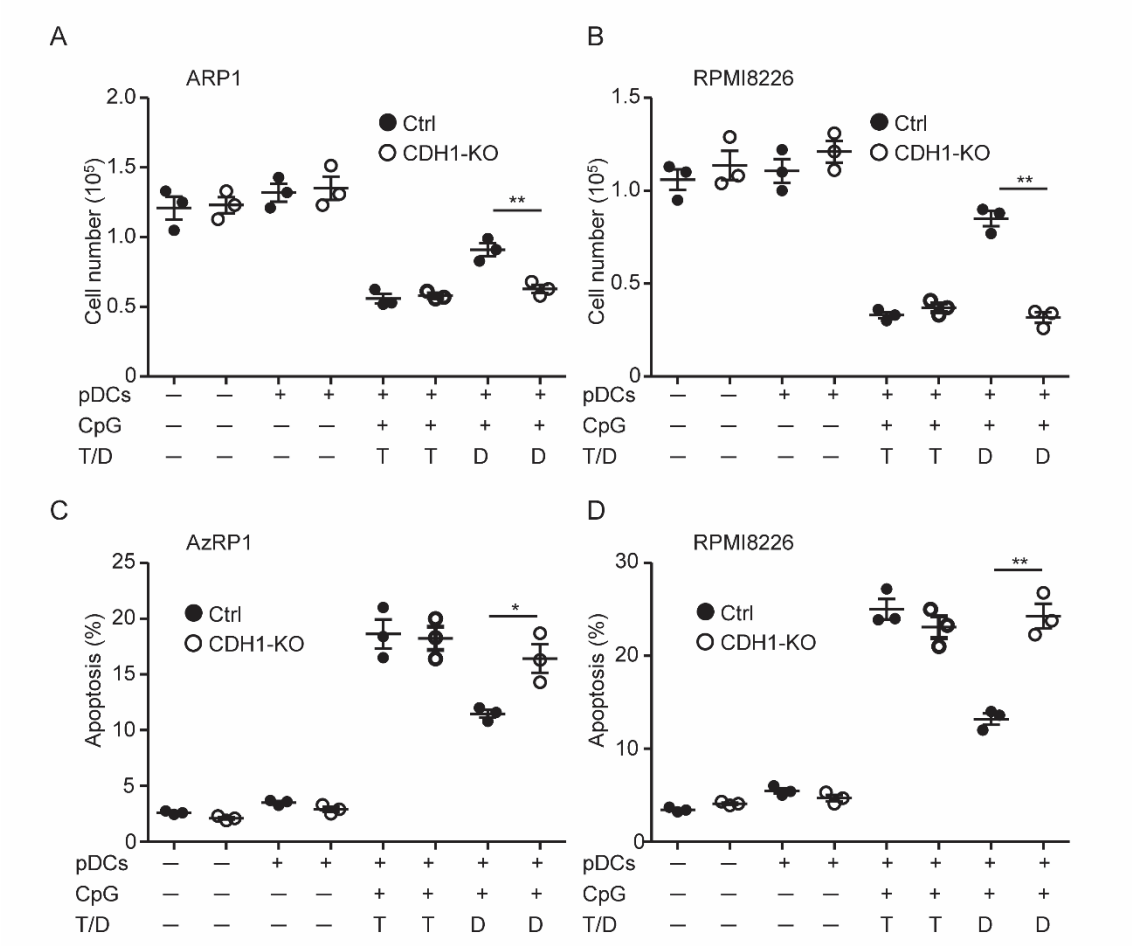
Supplemental Figure 1. Effect of pDC-depletion on myeloma pathogenesis in Vk*MYC myeloma model. **(A)** Schema showing the experiment procedure in Vk*MYC myeloma model. Serum protein electrophoresis to detect monoclonal band (M-spike) from (**B**) WT and BDCA2-DTR mice (12 mice/group), or (**C**) BDCA2 DT or BDCA2-DTR mice without DT treatment (BDCA2 no DT) mice (10 mice/group), at week 4 after injection of Vk*MYC myeloma cells and treated with DT (except BDCA2-no DT group). The positive ratio of mice with M-band (**D**) and quantified relative M-band density (**E**) are shown. (**F**) Survival of BDCA2 DT and BDCA2 no DT mice. All experiments were performed at least twice. Statistical significance was obtained by Student's *t* test. *p < 0.05.



Supplemental Figure 2. Kinetics of TLR9 expression and heatmap for TLR7 and TLR9 signaling in pDCs. **(A)** Gen2.2 cells were cocultured with MM (ARP1) cells, and TLR9 expression in Gen2.2 cells was detected at various time points (h, hours). Figures insides the graphs are mean fluorescence intensity of TLR9 staining. Experiments were performed three times. (**B**) Heatmap showing the expression of 74 mRNA/genes involved in the TLR7 and TLR9 signaling pathway in pDCs cultured alone or cocultured with MM (ARP1) cells. Gene profiling of ARP1 serves a control.



Supplemental Figure 3. BST2 and ILT7 are involved in MM-pDC interaction but not pDC dysfunction. (**A**) Gene expression levels of BST2 in different human tumors. Data were retrieved from Oncomine. (**B**) Expression of BST2 on MM (MM.1S) cells infected with control shRNA (ctrl shRNA) or BST2 shRNA. The filled black curve shows staining with isotype IgG. (**C**) Expression of ILT7 on human pDCs. (**D**) qPCR showing mRNA expression levels of FcεR1γ in untreated (Ctrl) Gen2.2 cells and Gen2.2 infected by control shRNA (shCtrl) or FcεR1γ shRNA (shFcεRIγ) lentivirus. GFP$^+$ cells were sorted. (**E**) Level of IFN-α secreted by Gen2.2 (WT, control or FcεR1γ knockdown) cells in culture alone or in direct coculture with MM (ARP1, WT, control or BST2 knockdown) cells. Flow cytometry analyses (left panels) and summarized data from three independent experiments (right panel) showing the percentages or numbers of (CFSE$^+$CD123$^+$) pDC-MM cell clusters in direct (1 hour) coculture with the addition of (**F**) BST2 or (**G**) ILT7-blocking antibodies. Isotype IgG was used as a control. MM cells were labeled with CFSE before the coculture. All experiments were performed at least three times. Statistical significance was obtained by Student's *t* test. **p < 0.01.



Supplemental Figure 4. Effect of knocking down E-cadherin in MM cells. Control (Ctrl) or E-cadherin knockdown (CDH1-KD) MM (ARP1 and RPMI8226) cells were cultured alone or in direct (D) or transwell (T) coculture with pDCs with or without CpG. Shown are (**A** and **B**) the numbers of live MM cells, and (**C** and **D**) percentages of apoptotic MM cells from the (co)cultures. All experiments were performed at least three times. Statistical significance was obtained by Student's *t* test. *p < 0.05, **p < 0.01.