

**Supplementary Figure 1.** Cre-mediated excision of the *H2-Ab1* gene in neutrophils does not reduce *H2-Ab1* mRNA and surface MHCII. (**A**) Quantification of the *H2-Ab1* gene exon 1 (floxed) by qPCR in neutrophil subsets purified by FACS from the spinal cord of *Ly6g<sup>cre/cre</sup>* (Catchup) and *Ly6g<sup>cre/cre</sup>H2-Ab1<sup>fl/fl</sup>* mice with EAE. Data were normalized to exon 3 (not floxed). Stars indicate significant excision (> 80%), as determined by Wilcoxon test (*P* < 0.0001). Sample size: 4-6 mice per group. (**B**) Quantification of *H2-Ab1* mRNA by RT-qPCR in spinal cord neutrophils using primers directed at exon 1. Data were normalized to *Hprt* mRNA and revealed no intergeno-type difference. Sample size: 5-6 mice per group. (**C** and **D**) Flow cytometric analysis of MHCII showing no difference in the percentage of neutrophils that were positive for MHCII (**C**) nor in the amount of MHCII on the surface of these cells (**D**). MFI, median fluorescence intensity. Sample size: 5-6 mice per group.



**Supplementary Figure 2.** B cells are essential for EAE induction with bMOG. (**A**) EAE score over time in *B1-8*<sup>+/+</sup> *J* $\kappa^{-/-}$  mice and wild-type controls (WT) immunized with bMOG. Star indicates a significant intergenotype difference per time point identified by post hoc Wilcoxon test (*P* < 0.0001). Sample size: 6 (WT), 4 (*B1-8*<sup>+/+</sup>*J* $\kappa^{-/-}$ ). (**B**) Detection of MOG<sub>1-125</sub>-specific plasma cells by ELISpot in bone marrow (BM) from WT and *B1-8*<sup>+/+</sup>*J* $\kappa^{-/-}$  mice at day 29 post-immunization. Star indicates a significant difference, as determined by Student's *t* test (*P* < 0.0001). Sample size: 6 (WT), 3 (*B1-8*<sup>+/+</sup>*J* $\kappa^{-/-}$ ). Each mouse was tested in triplicate.