

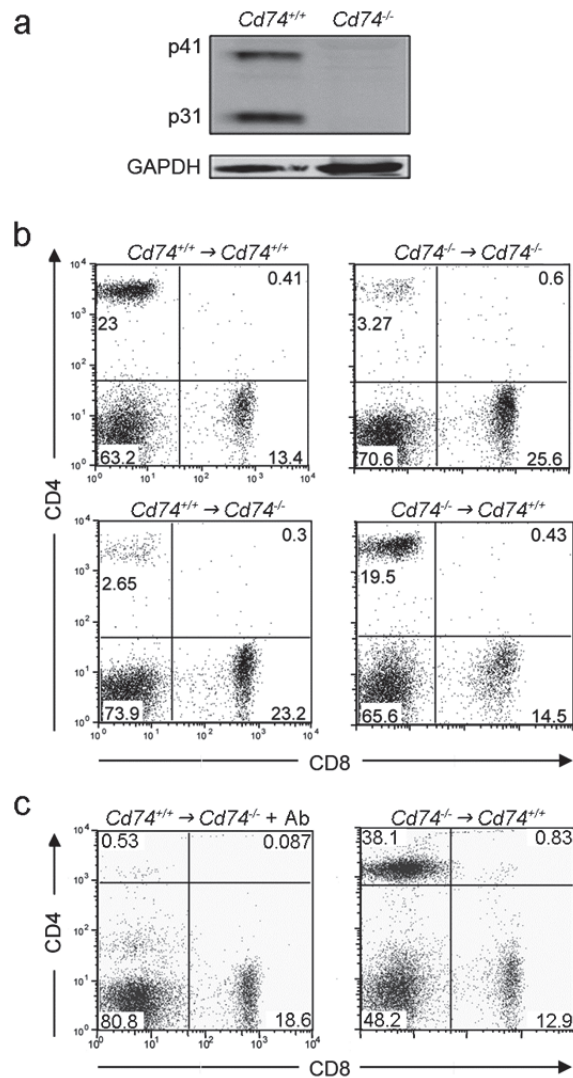
**A CD74-DEPENDENT MHC CLASS I ENDOLYSOSOMAL CROSS-PRESENTATION  
PATHWAY**

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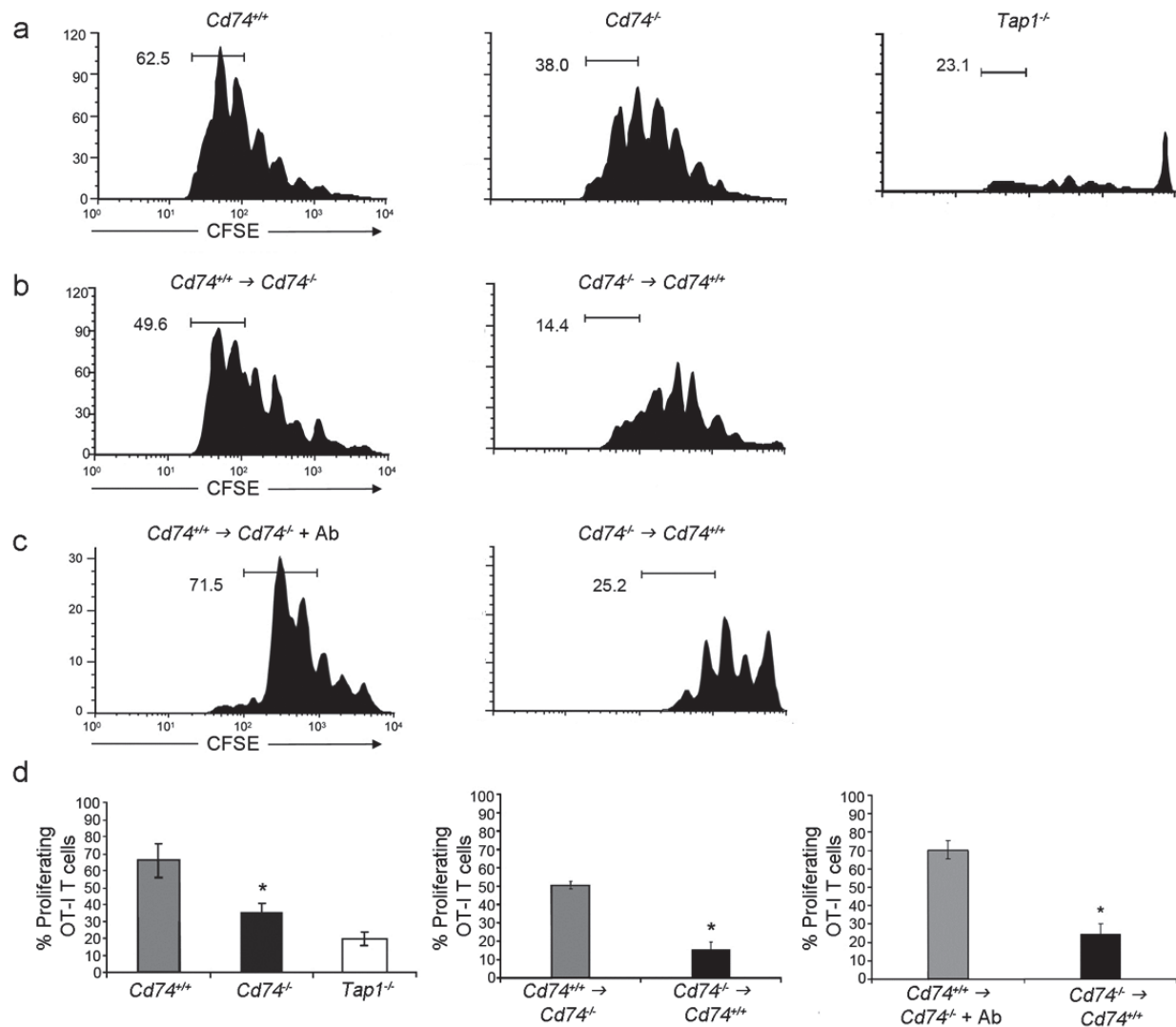
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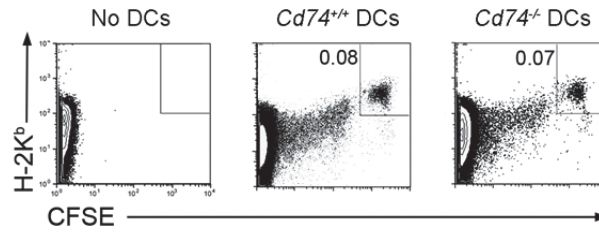
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**Supplementary Figure 1. Peripheral analysis of chimeric mice.** (a) Immunoblotting of *Cd74*<sup>+/+</sup> and *Cd74*<sup>-/-</sup> BMDCs was performed using a CD74 antibody. GAPDH was detected as a loading control. (b) The CD8<sup>+</sup>-CD4<sup>+</sup> profile in the blood of bone marrow chimera mice three months following reconstitution is presented. (c) *Cd74*<sup>+/+</sup>→*Cd74*<sup>-/-</sup> chimeras were depleted of CD4<sup>+</sup> cells by iv injection of a CD4 antibody (GK1.5). Representative CD4<sup>+</sup>-CD8<sup>+</sup> flow cytometry profiles are shown.



**Supplementary Figure 2. *Cd74<sup>-/-</sup>* mice are unable to cross-present cell-associated antigens *in vivo* to generate an effective primary immune response.** (a,b) OVA-pulsed C3H-derived BMDCs (H-2K<sup>k</sup> haplotype) were injected (ip) then OT-I transgenic CFSE-labeled T cells were injected (iv) into mice and chimeras. CFSE dilution of CD8<sup>+</sup> populations from the spleen was examined. Data represent proliferating OT-I-derived T cells from spleen of representative mice or chimeras as indicated (n=3). (c) *Cd74<sup>+/+</sup> → Cd74<sup>-/-</sup>* chimeras were depleted of CD4<sup>+</sup> cells by iv injection of a CD4 antibody (GK1.5; + Ab) during immunization with cell-associated OVA then assessed for their ability to activate CFSE-labeled adoptively transferred OT-I-derived T cells. (d) The mean percentage (± SD) of OT-I cells proliferating is shown. \* p < 0.05.



**Supplementary Figure 3. *Cd74*<sup>-/-</sup> DCs localize to the spleen.** *Cd74*<sup>+/+</sup> or *Cd74*<sup>-/-</sup> splenic DCs were CFSE labeled and iv injected into *Rag1*<sup>-/-</sup> mice on a BALB/c background. Two hours later, DC localization to the spleen was assessed.