

Supplementary Figures

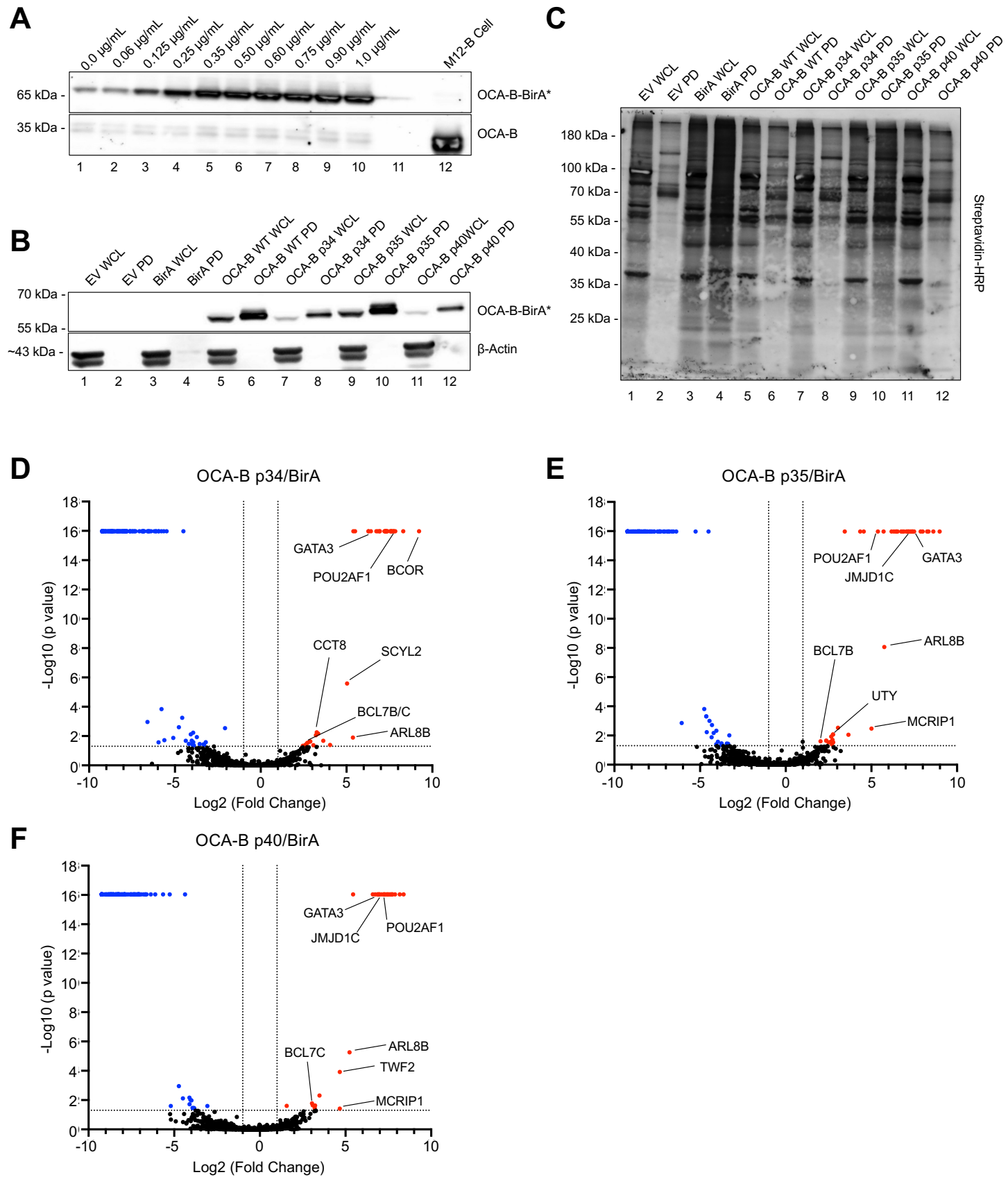
Transcriptional co-regulator OCA-B/Pou2af1 restricts Th2 differentiation

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Supplementary figures

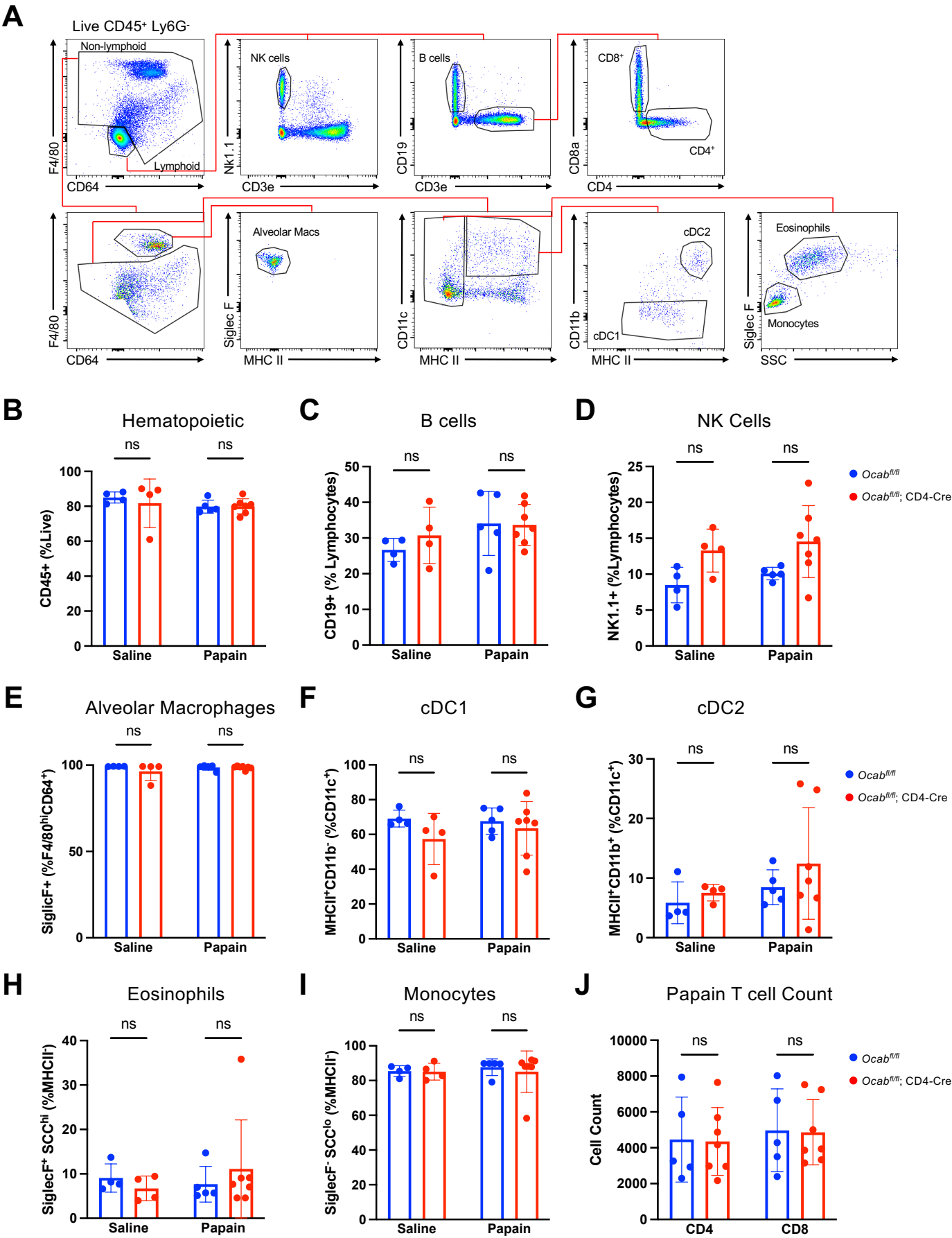
Supplementary Figure 1



Supplementary Figure 1 OCA-B isoform BioID validation and protein enrichment.

(A) Immunoblot showing endogenous OCA-B and OCAB-BirA fusion protein expression following incubation of cells with different concentrations of doxycycline. The M12 B cell line is used as a positive control for endogenous OCA-B. (B) Immunoblot showing OCA-B-BirA isoform expression in whole cell lysates (WCL) and following streptavidin pulldown (PD). Beta-actin expression represents a protein loading control. (C) Streptavidin-HRP Immunoblot showing protein biotinylation from control (EV and BirA) and OCA-B isoform WCL and PD samples. (D-F) Volcano plots depicting proteins identified by mass spectrometry positively and negatively enriched from OCA-B p34 (D, n=3), OCA-B p35 (E, n=3), and OCA-B p40 (F, n=3) transduced over the BirA-only (n=3) transduced control SupT1 cells. Proteins significantly elevated in wild-type OCA-B replicates are shown in red and proteins significantly elevated in BirA-only replicates are shown in blue.

Supplementary Figure 2



Supplementary Figure 2 Lung flow cytometry analysis following papain challenge.

Flow cytometry antibodies were purchased from Becton-Dickinson (CD4-BUV395, CD19-BUV661, CD8a-BUV737, IA/IE-BUV805) and BioLegend (Ly6G-PB, CD64-BV711, SiglecF-FITC, CD45-Percp, CD11c-Percp-cy5.5, NK1.1-PE-Cy5, F4/80-APC, CD3e-PE/Dazzle594, and CD11b-APC/Cy7). (A) Representative flow cytometry gating strategy to evaluate immune cell subsets isolated from lung tissue. (B-I) Quantification of the frequency of hematopoietic (CD45⁺), B cells (CD19⁺), NK cells (NK1.1⁺), alveolar macrophages (SiglecF⁺, F4/80^{hi}, CD64⁺), cDC1 cells (MHCII⁺ CD11b⁻, CD11c⁺), cDC2 cells (MHCII⁺ CD11b⁺, CD11c⁺), eosinophils (SiglecF⁺, SSC^{hi}, MHCII⁻), and monocytes (SiglecF⁻, SSC^{lo}, MHCII⁻) isolated from the lungs of *Ocab^{fl/fl}* and *Ocab^{fl/fl};CD4-Cre* mice treated with either saline or papain. (J) Quantification of cell counts from CD4⁺ and CD8⁺ T cells isolated from the lungs of *Ocab^{fl/fl}* and *Ocab^{fl/fl};CD4-Cre* mice treated with papain. All values represent mean $\pm$ SD. ns = $p > 0.05$, * = $p \leq 0.05$, ** = $p \leq 0.01$, *** = $p \leq 0.001$, **** = $p \leq 0.0001$.