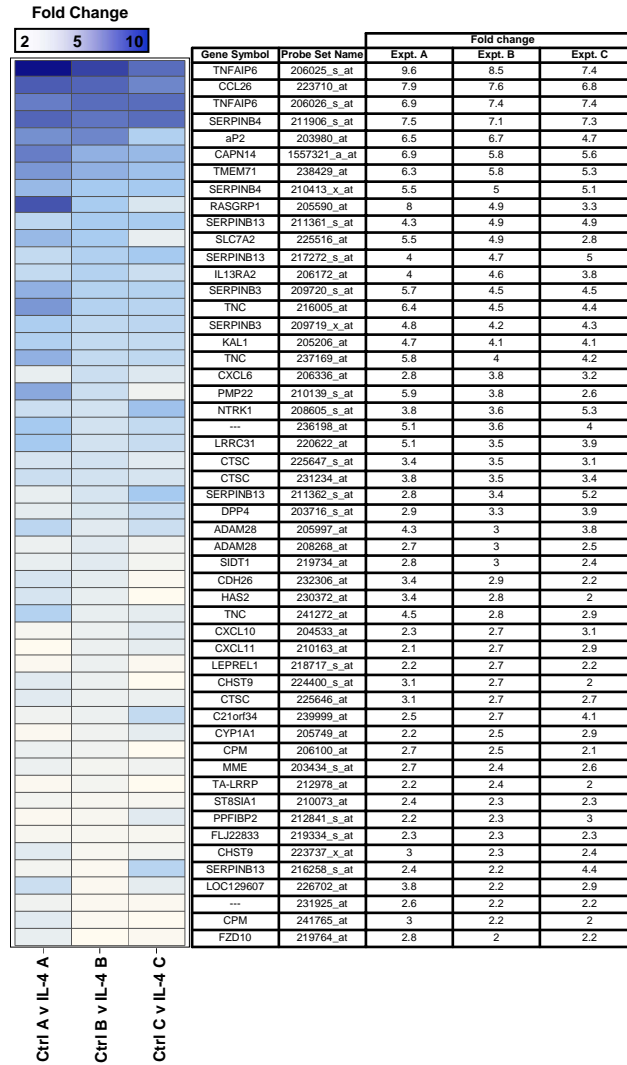


Supplementary figure 1



Supplementary figure 2

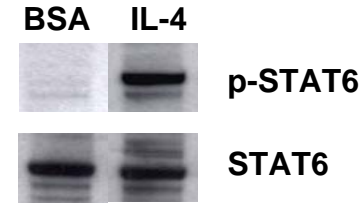
A

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                GRE      STAT6
ATCTCTAAGATAGTTTTTATGTTCTCAAATTCAGAAGAACTAAACACATTATTGCAGTAT
-----GGCAGTTCCTATGTTCTCTCAATTCAAAAGAAC-----CACATAACTGCAATTT
      *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *
TAATAAAAT--AAAAACTCA-AGATAAGAAGGTCAAA-TGTGTC-CAAGATAATTGTCT
AAATAACACCCACACACACACACAAAATAAGGTCGAAGTTTATCTCAAAATAATTTCC
***** *   *   *   *   *   *   *   *   *   *   *   *   *   *
C-CTCCACAATGAGGCAAATCCATA-AGGAATAATGGGGGAAGTTCAATGCATT-AGCT
CTCTCTACACTGGGATAAATATGTATAGGAATAATAGGGGAAATTCAAGTGCCTGAGCA
*   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *
TTTGACAGTCAAAACAGGAACCTTTAAAATACTCTGTTTCATGGTT-AAAAATAATTTGTA
TTAAGCTGTCAAAACAGGAATGTTAAAATATCCTGTTAGTGGTTAAAATAATTTGTA
**   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *
CTCTAAGTCCAGTGATCATT-GCCAGGGAGAACCAAAGTTGAGAAATTTCTATTA AAAAC
CTCTAAGTCCAGTGACTATTTGCCAGGGAGAACCAAAGTTGAGAAATTTCTATTA AAAAC
***** *   *   *   *   *   *   *   *   *   *   *   *   *   *
ATGACTCAGAGGAAAACATACAGGGTCTGGTCATGAAGGAAATGATCTGGCC-----CC
ATGACTCAGAGAAAAAATGCAGAGGCCGGTAATGAAGGAAATGATTGGATCTCATTCCC
***** *   *   *   *   *   *   *   *   *   *   *   *   *   *
CATTGGTCACTCCTACAGTCACATGGTCAGGGCATCTTAAAAGTGAGCTATCTGGACTT
AATTGGTCATTCTAAGATCACATGTTCTGAGCATCTTAAAAGGAAGTTATCTGGACTC
***** *   *   *   *   *   *   *   *   *   *   *   *   *
      ↑ +1
CAGAGGCTCATAAGCACCCCTCTGTG--CTGCAGCCT--TTCTCACCTGGAAGACAGCTCC
AAGAGGGTCAAGCACCCCTCTGAAAACAGCTTCCTTCTCACCTTGAAGAA--TAA
***** *   *   *   *   *   *   *   *   *   *   *   *   *
TCCTCGAAGGTTTACAAA-TG
TCCTAGAAAACCTCACAAAATG
***** *   *   *   *   *   *

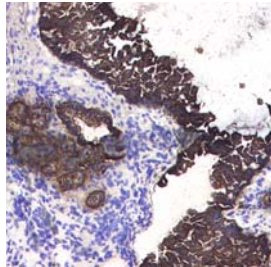
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B

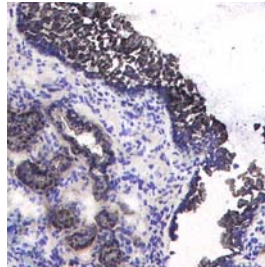


Supplementary figure 3

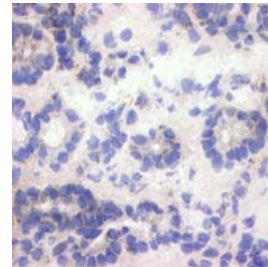
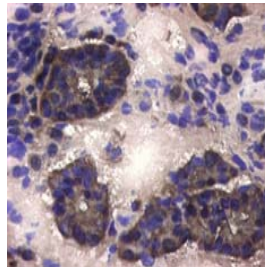
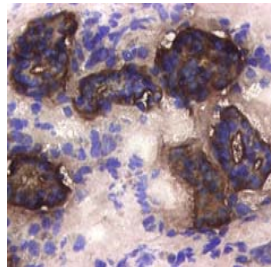
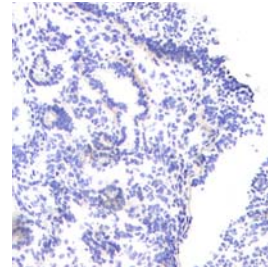
Cytokeratin



aP2

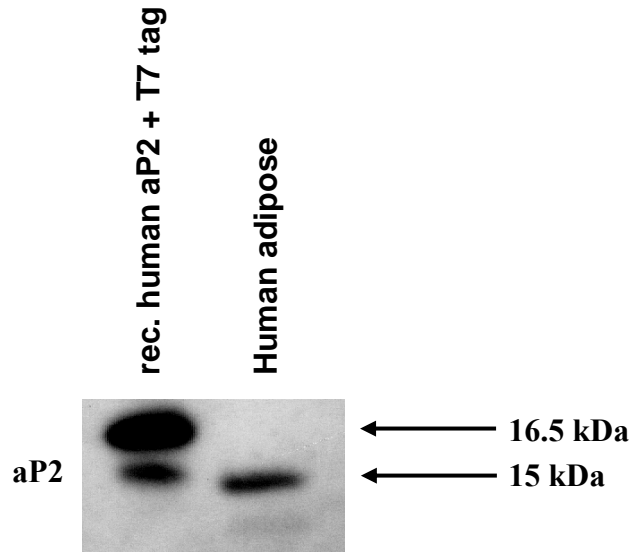


Isotype ctrl

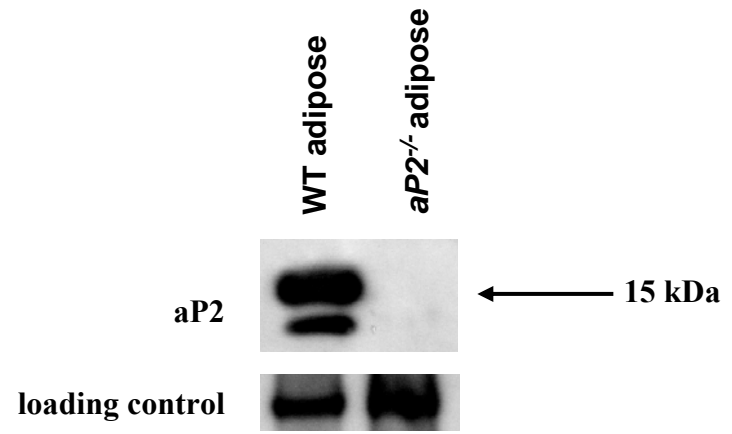


Supplementary figure 4

A

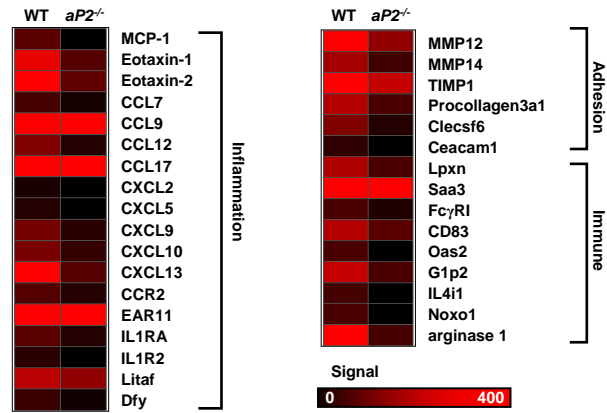


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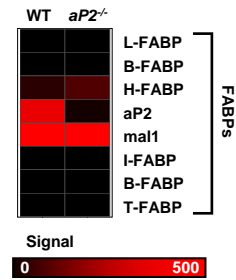


Supplementary figure 5

A



B



Supplementary figure legends

Supplementary Figure 1. IL-4 responsive genes in HBE. Genes are those increased ≥ 2 fold in three Genechip experiments.

Supplementary Figure 2. (A) Identification of a STAT6 consensus sequence in the *aP2* promoter. ClustalW analysis of aP2 mouse (top) and human (bottom) 5' genomic regions. +1, transcriptional start site; * homologous nucleotide; GRE, glucocorticoid regulatory element; STAT6, signal transducer and activator of transcription 6 consensus sequence at -383 (mouse) and -396 (human). (B) IL-4 activates STAT6 in BEAS-2B cells. Cells were treated 1 h with IL-4 (10 ng/ml) and Western blots performed with whole-cell lysate. Blots were probed with anti-phospho-STAT6 (p-STAT6) or anti-STAT6 antibodies (both from Santa Cruz Biotech. Inc.) and developed by chemiluminescence.

Supplementary Figure 3. aP2 is expressed in human upper airways. Upper airway tissue was immunostained for epithelium (cytokeratin), aP2 (clone 6E12), or with isotype control antibodies. Positive staining (brown), nuclei (blue). Original magnification X100 (upper panel), X400 (lower panel). Images representative of staining from 3 patients.

Supplementary Figure 4. Specificity of anti-aP2 monoclonal antibody. Western blots of (A) human adipose protein and 100 ng recombinant T7 tagged human aP2 protein or (B) WT and *aP2*^{-/-} mouse adipose protein, probed with 10 μ g/ml biotinylated clone 6E12 antibodies, detected by streptavidin-HRP at 1:3000 dilution (Dako) and developed by chemiluminescence. A band smaller than the one corresponding to aP2 was consistently detected in lanes containing

adipose tissue or recombinant protein, and was absent in adipose tissue from *aP2^{-/-}* animals. aP2 is approximately 15 kDa, recombinant aP2 is approximately 16.5 kDa.

Supplementary Figure 5. Transcript profiling of allergic *aP2^{-/-}* lung using Affymetrix MOE430A arrays, reveals reduction of a diverse range of inflammatory mediators. Microarray heatmap analysis showing signal intensities of (A) inflammatory genes and (B) FABP expression in allergic WT and *aP2^{-/-}* lungs. Selected genes with fold change ≤ -2 in *aP2^{-/-}* arrays compared to WT controls are shown in (A).