Fold Change

	5 1	U	Gono Symbol	Probe Set Name	Evet A	Fold change	Evet C
		_	TNEAIDE	206025 c of	EXPL. A	Expt. B	= xpt. C
			COLOR	206025_S_at	9.6	8.5	7.4
			TNEAIDE	223710_at	7.9	7.6	0.0
				200020_S_at	0.9	7.4	7.4
			SERPINB4	211906_S_at	7.5	7.1	7.3
			aP2 CADN14	203980_at	6.0	6.7	4.7
			CAFINI4 TMEM71	1337321_d_dt	6.2	5.8	5.0
				230429_dl	0.3	5.8	5.5
			SERPINB4	210413_x_at	5.5	5	5.1
			CERDINE12	205590_at	8	4.9	3.3
			SERFINETS	211301_5_dt	4.3	4.9	4.9
			SEDDINE12	223310_at	3.5	4.3	2.0 E
			JERFINBIS	211212_5_dl	4	4.7	20
			SEDDINB3	200172_dt 200720_c_at	57	4.6	3.0
			JERFINB3	209720_5_dt	5.7	4.5	4.5
			OFDDINIDO	210005_at	0.4	4.3	4.4
			SERPINB3	209719_x_at	4.8	4.2	4.3
			TNC	205206_at	4.7	4.1	4.1
			CYCL6	206336 at	2.0		4.2
			DMD22	200330_at	2.8	3.8	3.2
			PMP22	210139_s_at	5.9	3.8	2.6
			NIKKI	208605_S_at	3.8	3.0	5.3
			L BBC 21	236198_at	5.1	3.0	4
			LRRC31	220622_at	5.1	3.5	3.9
			CISC	225647_s_at	3.4	3.5	3.1
			CISC SERDINE12	231234_at	3.8	3.5	3.4
			DDD4	211302_S_dt	2.0	3.4	3.2
			DFF4	2037 10_S_at	2.9	3.3	3.9
			ADAM28	205997_at	4.3	3	3.8
			ADAM28	208268_at	2.7	3	2.5
			CDH26	213734_at	2.0	20	2.4
			UAS2	232300_at	3.4	2.9	2.2
			TNC	241272_at	4.5	2.0	20
			CYCL 10	204533 at	4.5	2.0	2.3
			CXCL11	210163 at	2.5	2.7	2.0
			I ERREL 1	210105_at	2.1	2.7	2.3
			CHSTO	224400 s at	3.1	2.7	2.2
			CTSC	225646 at	3.1	2.7	27
			C21orf34	239999 at	2.5	2.7	4.1
			CYP1A1	205749 at	2.2	2.5	2.9
			CPM	206100 at	2.7	2.5	2.1
			MME	203434 s at	2.7	2.4	2.6
-			TA-LRRP	212978_at	2.2	2.4	2
			ST8SIA1	210073_at	2.4	2.3	2.3
			PPFIBP2	212841_s_at	2.2	2.3	3
			FLJ22833	219334_s_at	2.3	2.3	2.3
			CHST9	223737_x_at	3	2.3	2.4
			SERPINB13	216258_s_at	2.4	2.2	4.4
			LOC129607	226702_at	3.8	2.2	2.9
				231925_at	2.6	2.2	2.2
			CPM	241765_at	3	2.2	2
			FZD10	219764 at	2.8	2	2.2

Α

GRE STAT6

TCTCTAAGATAGTTTTTATGTTCTCAAATTCAGAAGAACTAAACACATTATTGCAGTAT
GGCAGTTCTT <u>ATGTTCCT</u> CAA <u>TTCAAAAGAA</u> CCACATAACTGCAATTT
* *** ******* ***** ****** ***** *****
AATAAAATAAAAACTCA-AGATAAGAAGGTCAAA-TGTGTC-CAAGATAATTGTCT
AATAACACCCCACACACACACAAAATAAGGTCGAAGTTTATCTCAAAATAATTTCCC
***** * * * ** ** * ** ***** ** * * ** ****
-CTCCACAATGAGGCAAATCCATA-AGGAATAATGGGGGGGAAGTTCAATGCATT-AGCT
TCTCTACACTGGGATAAATATGTATAGGAATAATAGGGGGGAAATTCAGTGCACTGAGCA
*** *** ** * **** ** ******************
TTGACAGTCAAAACAGGAACCTTTAAAATACTCTGTTCATGGTT-AAAAATAATTTGTA
TAAGCTGTCAAAACAGGAATGTTTAAAATATCCTGTTAGTGGTTTAAAAAATAATTTGTA
* * *********** ******* ****** *****
TCTAAGTCCAGTGATCATT-GCCAGGGAGAACCAAAGTTGAGAAATTTCTATTAAAAAC
TCTAAGTCCAGTGACTATTTGCCAGGGAGAACCAAAGTTGAGAAATTTCTATTAAAAAC

TGACTCAGAGGAAAACATACAGGGTCTGGTCATGAAGGAAATGATCTGGCCCC
TGACTCAGAGAAAAAATGCAGAGGCCGGTAATGAAGGAAATGATTGGATCTCATTCCC
******** **** ** *** * * *** **********
ATTGGTCACTCCTACAGTCACATGGTCAGGGCATCTTTAAAAGTGAGCTATCTGGACTT
ATTGGTCATTCCTAAGATCACATGTTCTGAGCATCTTTAAAAGGAAGTTATCTGGACTC
****** ***** ****** ** * **************
AGAGGGIL A CAGCAUCUICUIGAAAAUIGUAGUIICUIICICACUITGAAGAATAA
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CCTCGAAGGTTTACAAA-TG
CCTAGAAAACTCACAAAATG

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#### **Supplementary figure legends**

Supplementary Figure 1. IL-4 responsive genes in HBE. Genes are those increased  $\geq 2$  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 _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  $aP2^{-t}$  animals. aP2 is approximately 15 kDa, recombinant aP2 is approximately 16.5 kDa.

**Supplementary Figure 5.** Transcript profiling of allergic  $aP2^{-t}$  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  $aP2^{-t}$ lungs. Selected genes with fold change  $\leq -2$  in  $aP2^{-t}$  arrays compared to WT controls are shown in (A).