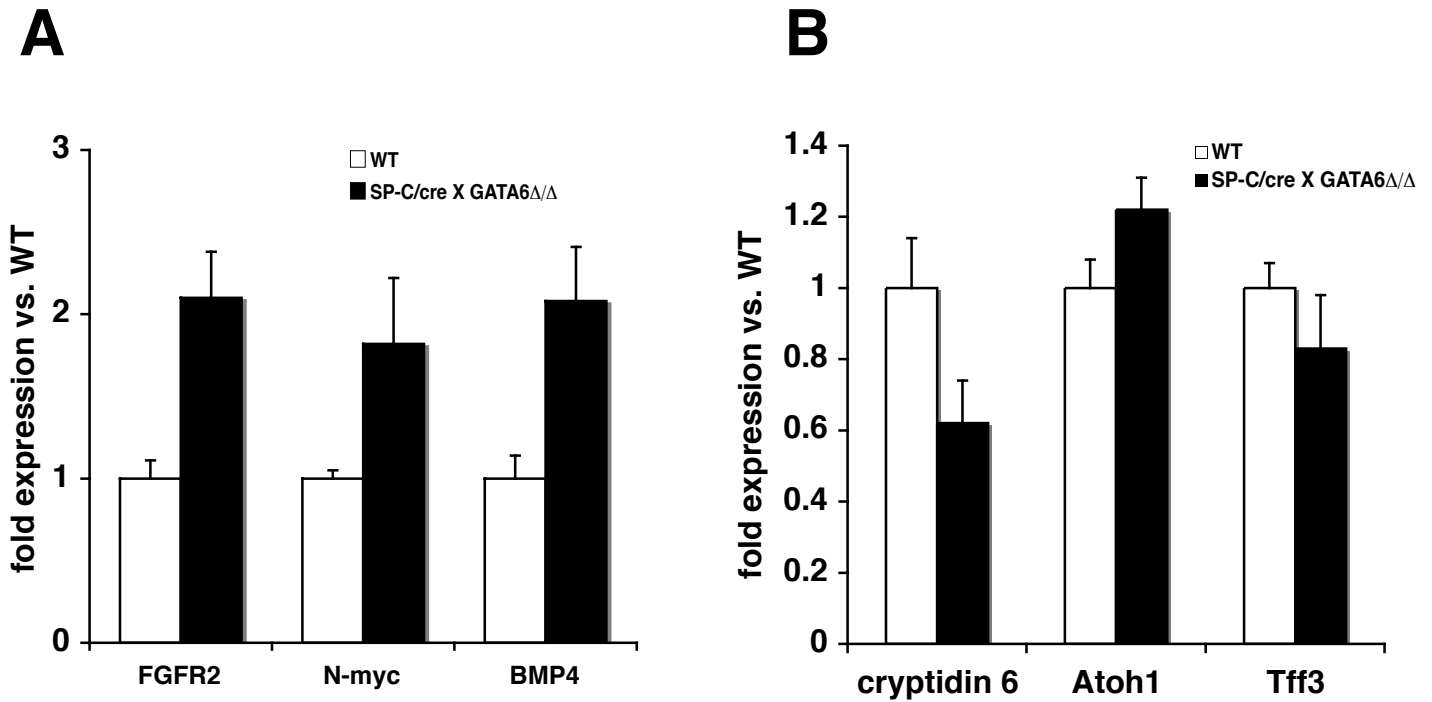


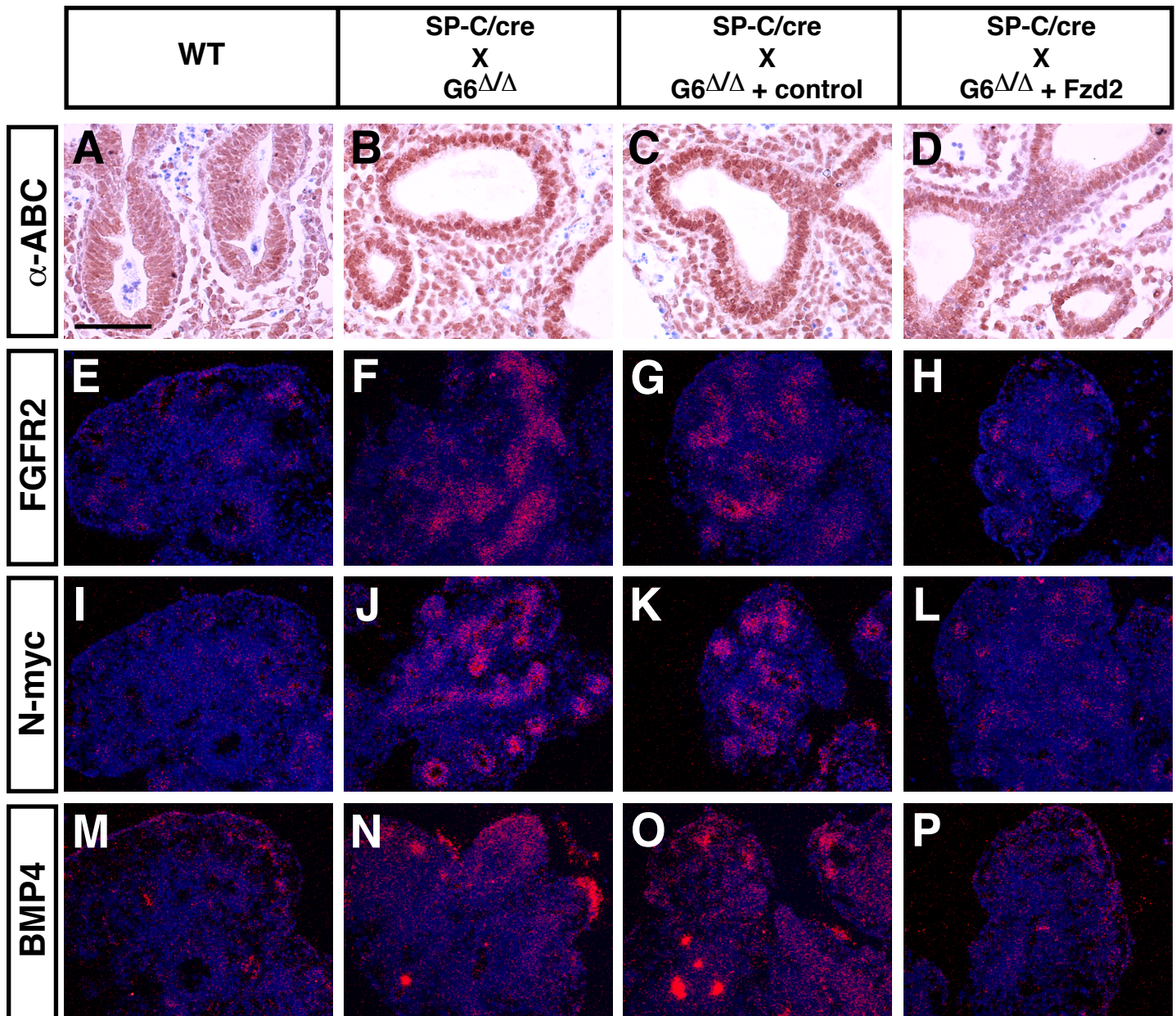
**Supplemental Figure 1. Expression of Gata6 in airway epithelium.**

Immunohistochemistry was performed on E18.5 mouse lung tissue. Gata6 expression (A and C, green) was observed in both proximal (asterisk) and more distal airway epithelium. CC10 expression (B and C, red) is observed only in proximal airway epithelium. An overlay of the expression of these two proteins reveals Gata6 expression in CC10 positive proximal airway epithelium (C). Scale bars=50  $\mu$ m.

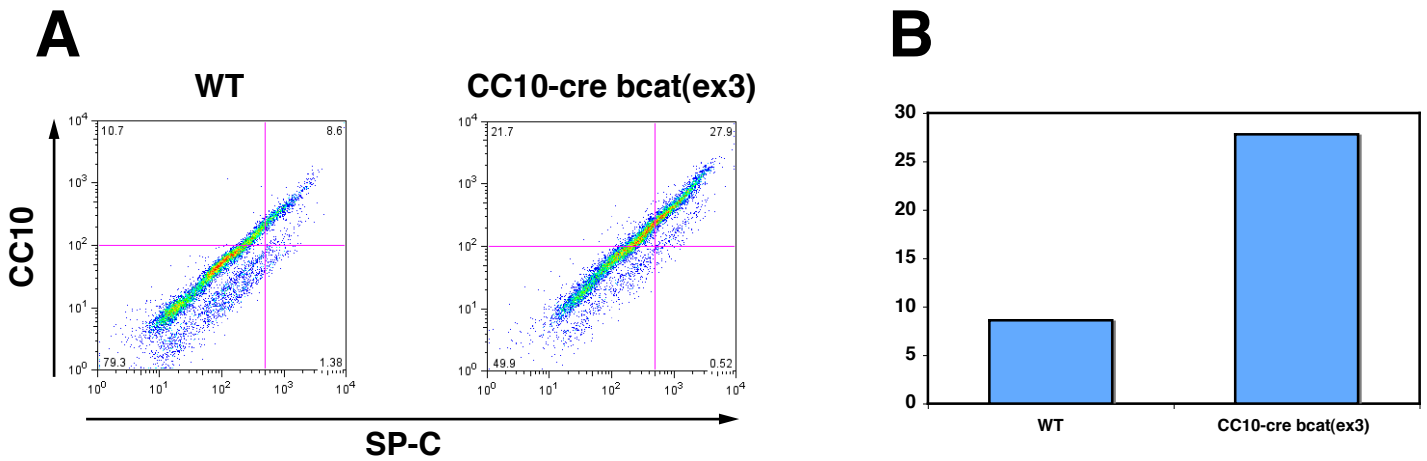


**Supplemental Figure 2. Expression of Wnt induced genes in *Gata6* <sup>$\Delta/\Delta$</sup> :*SP-C/cre***

**mutants.** Expression of the previously identified Wnt lung targets FGFR2, N-myc, and BMP4 is increased in *Gata6* <sup>$\Delta/\Delta$</sup> :*SP-C/cre* mutants as measured by Q-PCR (A). Genes induced by hyper-activation of  $\beta$ -catenin signaling in the lung including cryptidin 6 and Tff3 were slightly down-regulated whereas Atoh1 was slightly up-regulated in *Gata6* <sup>$\Delta/\Delta$</sup> :*SP-C/cre* mutants.



**Supplemental Figure 3. Expression of activated  $\beta$ -catenin and Wnt target genes FGFR2, N-myc, and BMP4 in lung explant rescue cultures.** Levels of activated  $\beta$ -catenin are increased in *Gata6<sup>Δ/Δ</sup>:SP-C/cre* mutant (B) and control plasmid transfected explants (C) as compared to wild-type explants (A). However, expression of activated  $\beta$ -catenin returns to wild-type levels upon re-expression of Fzd2 (D). Expression of FGFR2, N-myc, and BMP4 is increased in *Gata6<sup>Δ/Δ</sup>:SP-C/cre* mutant (F, J, N) and control plasmid transfected explants (G, K, O) as compared to wild-type explants (E, I, M). However, expression of all three of these genes returns to wild-type levels upon re-expression of Fzd2 (H, L, P). Scale bars=50  $\mu$ m.



**Supplemental Figure 4. Increase in double positive BASCs in of  $\beta$ -**

***catenin* <sup>$\Delta$ ex3</sup>:*CC10/cre* mice after naphthalene injury.** FACS analysis was performed on wild-type and  $\beta$ -*catenin* <sup>$\Delta$ ex3</sup>:*CC10/cre* mice one week after naphthalene injury showing a greater than three-fold increase in BASCs upon expression of activated  $\beta$ -catenin (A).

Graphic depiction of the fold change in BASC numbers (B).

**Supplemental Table 1. Oligonucleotide sequences used for real-time quantitative PCR and ChIP.**

<b>Gene</b>	<b>Primer sequence</b>
Wnt2 forward	5'-TCTTGAAACAAGAATGCAAGTGTC
Wnt2 reverse	5'-GAGATAGTCGCCTGTTTTCTGAA
Wnt7b forward	5'-GCATCCAAGGTCAACGCAAT
Wnt7b reverse	5'-CTCAGAGTCTCATGGTCCCTTTG
Fzd2 forward	5'-CCGCTCTTCGTATACCTGTTC
Fzd2 reverse	5'-CGGATGCGGAAGAGTGACA
N-myc forward	5'-TGTGTTGACATTAAGAATGTTGGTTTAC
N-myc reverse	5'-TTTCCAAGGTCATGGCAGAAC
BMP4 forward	5'-CCCTTTCCACTGGCTGATCA
BMP4 reverse	5'-GGGACACAACAGGCCTTAGG
FGFR2 forward	5'-GCTTCTCAGTGAGTTTTAATAACAGC
FGFR2 reverse	5'-GAATGATGCTGGGCTTTTGC
Cryptidin 6 forward	5'-CCAGGCTGATCCTATCCAAAATAC
Cryptidin 6 reverse	5'-CTTCTGGGTCTCCAAAAGAGACA
Atoh1 forward and reverse	ABI Taqman primers cat. # Mm00476035_s1
Tff3 forward and reverse	ABI Taqman primers cat. # Mm00495590_m1
Fzd2 ChIP primer forward	5'-AGCAATCACGGACTGAGCAA
Fzd2 ChIP primer reverse	5'-CAGAAACCAGATGCCAAGAAAAC
Fzd2 1.5kb promoter forward	5'ATGGTACCTCTGGTAATTCTCCTGTCTCAACG
Fzd2 1.5kb promoter reverse	5'ATCTCGAGGATCCCAATTAGTCGGTTTCAAGG