

Figure S1 (Related to Figure 1). YAP/TAZ removal does not affect Wnt signal transduction in gastrointestinal epithelium. (A) YAP/TAZ, β Catenin, and CD44 immunohistochemical staining in stomach in control and *Shh^{Cre} Yap^{flox/flox} Taz^{flox/flox}* animals at E18.5. **(B)** Real-time PCR analysis of *Axin2* mRNA level in stomach in control and *Shh^{Cre} Yap^{flox/flox} Taz^{flox/flox}* animals at E18.5. **(C)** β Catenin, CD44 and Sox9 immunohistochemical staining in intestine of adult control and *Villin^{Cre} Yap^{flox/flox} Taz^{flox/flox}* animals. **(D)** Real-time PCR analysis of *Ankrd1*, *Axin2* and *Lgr5* mRNA levels in intestine of adult control and *Villin^{Cre} Yap^{flox/flox} Taz^{flox/flox}* animals. **(E)** Ki67 (immunohistochemical), Alcian Blue, and Lysozyme (immunofluorescence) staining in intestine of adult control and *Villin^{Cre} Yap^{flox/flox} Taz^{flox/flox}* animals. Data are mean \pm S.D., ** = p value \leq 0.01.

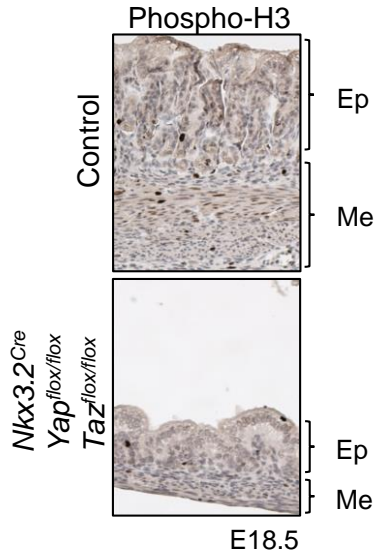
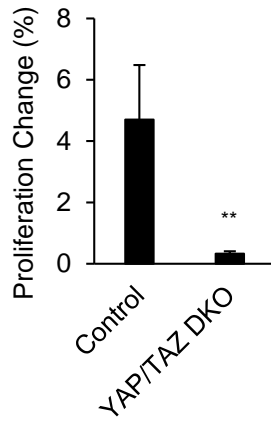
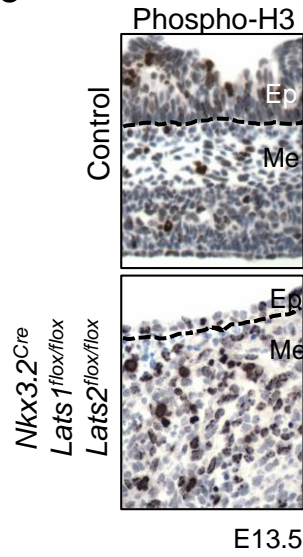
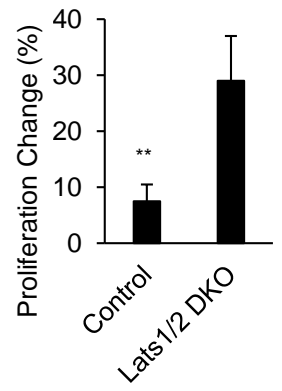
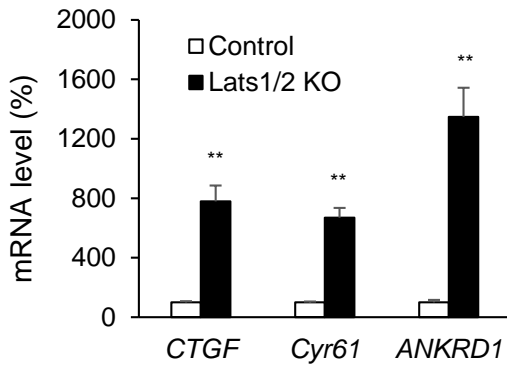
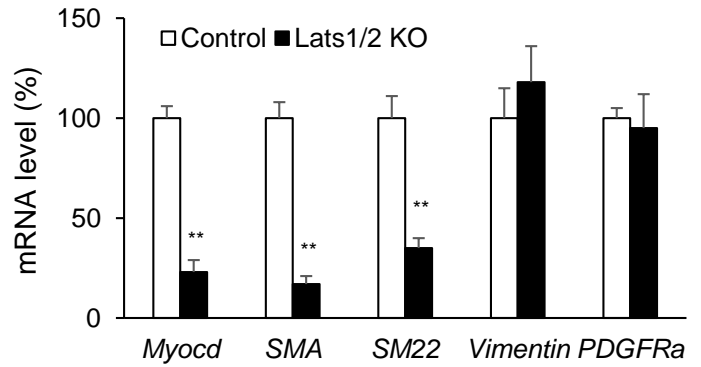
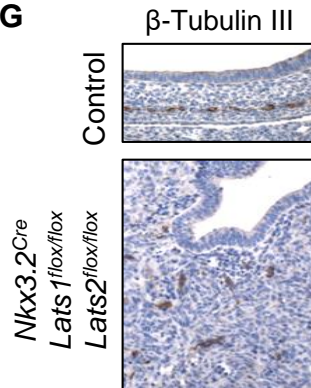
A**B****C****D****E****F****G**

Figure S2 (Related to Figure 2 and 4). Proliferation and differentiation in

Lats1/2 and YAP/TAZ mutant gut mesenchyme. (A) phospho-H3 (pH3)

immunohistochemical staining in stomach of control and

Nkx3.2^{Cre}YAP^{flox/flox}TAZ^{flox/flox} mutant animals at E18.5. Ep: Epithelium; Me:

Mesenchyme. (B) Quantification of fold change of mesenchymal pH3⁺ cells in (A).

YAP/TAZ DKO: *Nkx3.2^{Cre}YAP^{flox/flox}TAZ^{flox/flox}*. (C) pH3 immunohistochemical staining

in stomach of control and *Nkx3.2^{Cre}Lats1^{flox/flox}Lats2^{flox/flox}* mutant animals at E13.5.

(D) Quantification of fold change of mesenchymal pH3⁺ cells in (C). Lats1/2 DKO:

Nkx3.2^{Cre}Lats1^{flox/flox}Lats2^{flox/flox} (E) Real-time PCR analysis of *Ctgf*, *Cyr61* and

Ankrd1 mRNA levels in stomach of control and *Nkx3.2^{Cre}Lats1^{flox/flox}Lats2^{flox/flox}*

mutant animals at E13.5. (F) Real-time PCR analysis of *Myocd*, *SMA*, *SM22*,

Vimentin, and *PDGFRa* mRNA levels in stomach of control and

Nkx3.2^{Cre}Lats1^{flox/flox}Lats2^{flox/flox} mutant animals at E13.5. (G) β Tubulin III

immunohistochemical staining in stomach of control and

Nkx3.2^{Cre}Lats1^{flox/flox}Lats2^{flox/flox} mutant animals at E13.5. Data are mean \pm S.D., **

= p value \leq 0.01.

Table S2: (Related to STAR*METHOD) RT-qPCR and ChIP-qPCR Primers

qPCR Primers	Sequence
mouse CTGF forward	TGTGCACTGCCAAAGATGGTGCAC
mouse CTGF reverse	TGGGCAGGCGCACGTCCATG
mouse Cyr61 forward	CAGCTCACTGAAGAGGCTTC
mouse Cyr61 reverse	GCGTGCAGAGGGTTGAAAAG
mouse ANKRD1 forward	GGAACAACGGAAAAGCGAGAA
mouse ANKRD1 reverse	GAAACCTCGGCACATCCACA
mouse α -SMA forward	ATTGTGCTGGACTCTGGAGATGGT
mouse α -SMA reverse	TGATGTCACGGACAATCTCACGCT
mouse γ -SMA forward	GTATTTCTGCCAAAGACACCACG
mouse γ -SMA reverse	ACATAGCTGTCTTTCTGGCCC
mouse Vimentin forward	CGGCTGCGAGAGAAATTGC
mouse Vimentin reverse	CCACTTTCCGTTCAAGGTCAAG
mouse PDGFR α forward	CGACTCCAGATGGGAGTTCCC
mouse PDGFR α reverse	TGCCATCCAATTACAGGCA
mouse PDGFR β forward	AGCTACATGGCCCCTTATGA
mouse PDGFR β reverse	GGATCCCAAAGACCAGACA
mouse Hhip1 forward	CTATTGGGCCTCACGACCAC
mouse Hhip1 reverse	TTCCAGAAACACCCTGGCTG
mouse Gli1 forward	CGCCAAGCACCAGAATCGG
mouse Gli1 reverse	CCGAGACACAAGGTCCTTCATCC
mouse Ptch1 forward	AACAAAAATTCAACCAAACCTC
mouse Ptch1 reverse	TGTCTTCATTCCAGTTGATGTG
mouse Ptch2 forward	CCCGTGGTAATCCTCGTGGCCTCTAT
mouse Ptch2 reverse	TCCATCAGTCACAGGGGCAAAGGTC
mouse Shh forward	CAAAGCTCACATCCACTGTTCTG
mouse Shh reverse	GAAA CAGC CGCC GGATTT
mouse Ihh forward	CACGTGCATTGCTCTGTCAA
mouse Ihh reverse	AGGAAAGCAGCCACCTGTCTT
mouse Myocd forward	AAGGTCCATTCCAACCTGCTC
mouse Myocd reverse	CCATCTCTACTGCTGTCAATCC
mouse Myh11 forward	GAGAAAGGAAACACCAAGGTCAAGC
mouse Myh11 reverse	AACAAATGAAGCCTCCTGGTGGCTC
mouse SM22 α forward	CTCTAATGGCTTTGGGCAGTTTGG

mouse SM22 α reverse	GCTCCTGGGCTTTCTTCATAAACC
mouse Axin2 forward	TGACTCTCCTTCCAGATCCCA
mouse Axin2 reverse	TGCCCACACTAGGCTGACA
mouse Lgr5 forward	CGGGACCTTGAAGATTCCT
mouse Lgr5 reverse	GATTCGGATCAGCCAGCTAC
mouse GAPDH forward	GTGAAGGTCGGTGTGAACG
mouse GAPDH reverse	ATTTGATGTTAGTGGGGTCTCG
ChIP-qPCR Primers	Sequence
mouse Cyr61 forward	CTCTGATGGATCTGAGAAGAGG
mouse Cyr61 reverse	GCCCTTTATAATGCCTGCCTA
mouse Ctgf forward	CAATCCGGTGTGAGTTGATG
mouse Ctgf reverse	GGCGCTGGCTTTTATACG
mouse Myocd forward	ATTCTCTGGGTTGCACCAAT
mouse Myocd reverse	AGTTGAGTAGCAGGGCTCCA
mouse Myocd TSS forward	ACTGTGCGTCCTCCTACCC
mouse Myocd TSS reverse	CCCAGAGGACAGCAGCTAAC
mouse α -SMA forward	AGCAGAACAGAGGAATGCAGTGGAAGAGAC
mouse α -SMA reverse	CCTCCCCTCGCCTCCCAAACAAGGAGC
mouse GADPH forward	GCCTCTGCGCCCTTGAGCTA
mouse GADPH reverse	GATGCGGCCGTCTCTGGAAC
mouse intergenic region forward	GCTCCGGGTCCTATTCTTGT
mouse intergenic region reverse	TCTTGGTTTCCAGGAGATGC