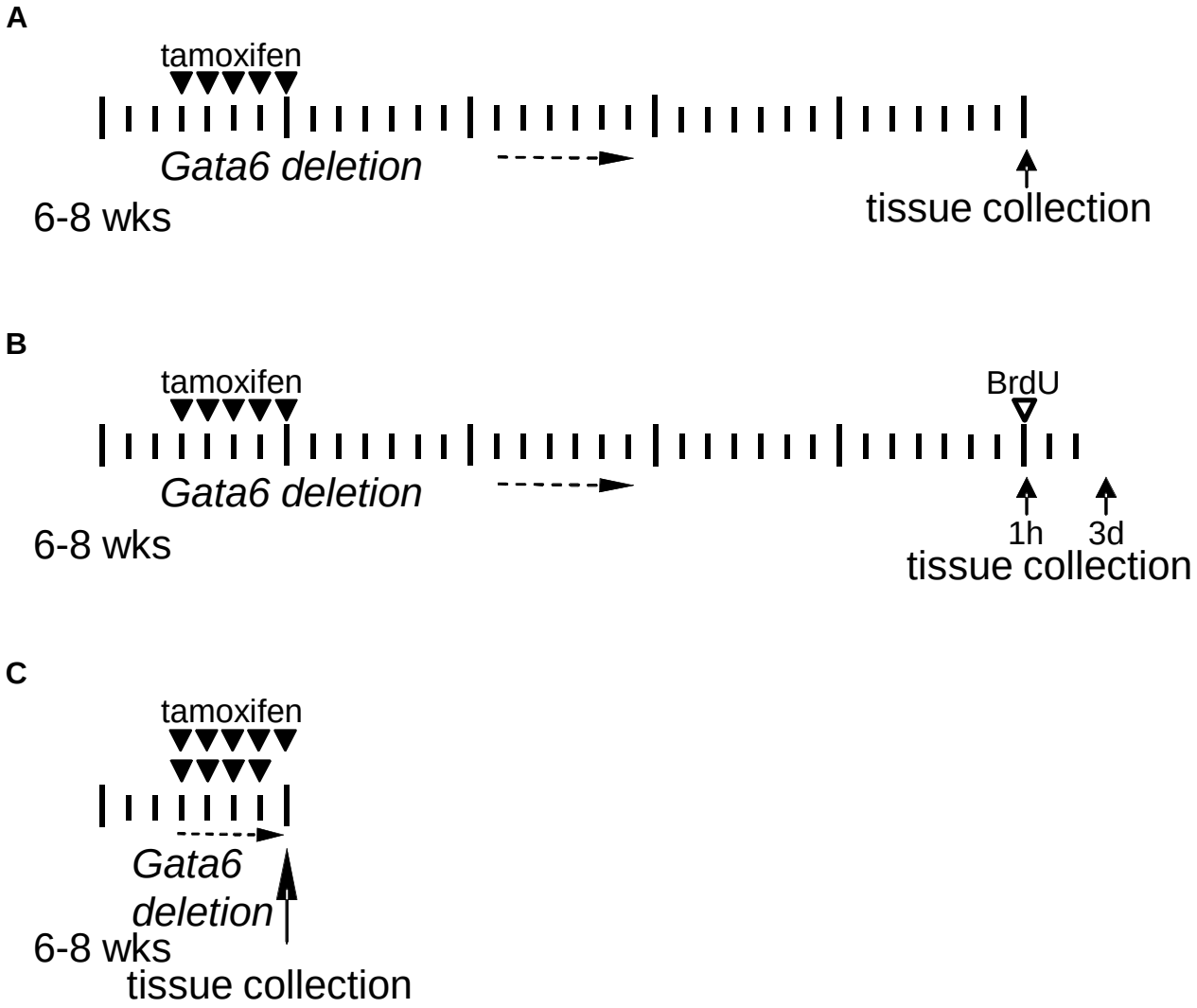


SUPPL.FIG. 1. Schematic representation of treatment plans. (A) Adult mice were treated with a daily dose of tamoxifen for 5 days and tissue was collected 27 days after the last injection. (B) Adult mice were treated with a daily dose of tamoxifen for 5 days. Twenty-seven days after the last tamoxifen injection, mice were treated with BrdU and tissue was collected 1 hour or 3 days after the BrdU injection. (C) Adult mice were treated with 2 daily doses of tamoxifen for 5 days (one dose on day 5) and tissue was collected on the day of the last tamoxifen injection.

Mouse Real Time RT-PCR Primers

Gapdh:	*F: 5'-GCCTTCCGTGTTCCTACCC-3'*
	R: 5'-TGCCTGCTTCACCACCTTC-3'
Gata6:	*F: 5'-CGAGGAATCAAAAGTCAGG-3'*
	R: 5'-AGTCAAGGCCATCCACTGTC-3'
Gata4:	*F: 5'-TTTGAGCGAGTTGGG-3'*
	R: 5'-GAATGCGGGTGTGC-3'
Gata5:	*F: 5'-CAACCTACCCAGCATAC-3'*
	R: 5'-CTCCTCCAAGAAGTCAG-3'
Klf4:	*F: 5'-TCGGTCATCAGTGTTAG-3'*
	R: 5'-TCGGTCATCAGTGTTAG-3'
Muc2:	*F: 5'-AACTACCACTGTGATGCCAATG-3'*
	R: 5'-ACAATGTTGATGCCAGACTCG-3'
Tff3:	*F: 5'-AGTGGTCCTGAAGC-3'*
	R: 5'-CGATGTGACAGAGG-3'
Agr2:	*F: 5'-TGTCCCCAGAATTGTGTTTGTAGA-3'*
	R: 5'-TGTCAGAAGGTTCATAAGCGTAGA-3'
Spink4:	*F: 5'-TGCAGTCACATAGCTCACAAG-3'*
	R: 5'-CCATGCCAAGGAGGGGAA-3'
ChgA:	*F: 5'-CACAGCCACCAATACC-3'*
	R: 5'-TCTTCCTCCTCCTCTTC-3'
Sct:	*F: 5'-CTGCTGTTGCTGCTGCTG-3'*
	R: 5'-CATTCCGTCTGAGTGTCTTGG-3'
Cck:	*F: 5'-AGGAAACAACCACACATACG-3'*
	R: 5'-AGCATAGCAACATTAGGTCTG-3'
Gcg:	*F: 5'-TCTGACGAGATGAGCACCATTCTG-3'*
	R: 5'-TCTGACGAGATGAGCACCATTCTG-3'
Pyy:	*F: 5'-CGACAGCGACAGCGAGAAC-3'*
	R: 5'-AGGGACAGGGAAATGAACACAC-3'
Slc4a1:	*F: 5'-ATTCACTTATTCATTCATTCATTC-3'*
	R: 5'-GCAGGCTTAGGTATTGGC-3'
Slc4a2:	*F: 5'-CGAGCAAGAGGAAGATGAAC-3'*
	R: 5'-GGTGGATAGCGGATGATGG-3'
Atp1b1:	*F: 5'-ACCTACACTTAATCTCTATGC-3'*
	R: 5'-GAACACTGCTCACTACAA-3'
Atp1b3:	*F: 5'-TCCGTATGCTCCAGACTG-3'*
	R: 3'-GAAGACTTGATTCCAACACTCA-3'
Slc2a1:	*F: 5'-TATCTCCACACTGTAGTC-3'*
	R: 5'-CAGAGTTCGGTATTAGTG-3'
Car2:	*F: 5'-TTCACTGGAACACCAAATATG-3'*
	R: 5'-TTCACTGGAACACCAAATATG-3'
Car1:	*F: 5'-GACAGTAGCAACCAATC-3'*
	R: 5'-TTCATCAAAACGCCAAG-3'
Slc9a2:	*F: 5'-AGGAAAGTCGGTTGCC-3'*
	R: 5'-GTCTACGGTCTGGATGG-3'
Slc9a3:	*F: 5'-TGGCGTGGATTGTGTGAAAG-3'*
	R: 5'-CAGCAGGAAGGCGAAGATAAC-3'

SUPPL.FIG. 2. Mouse real-time RT-PCR primers

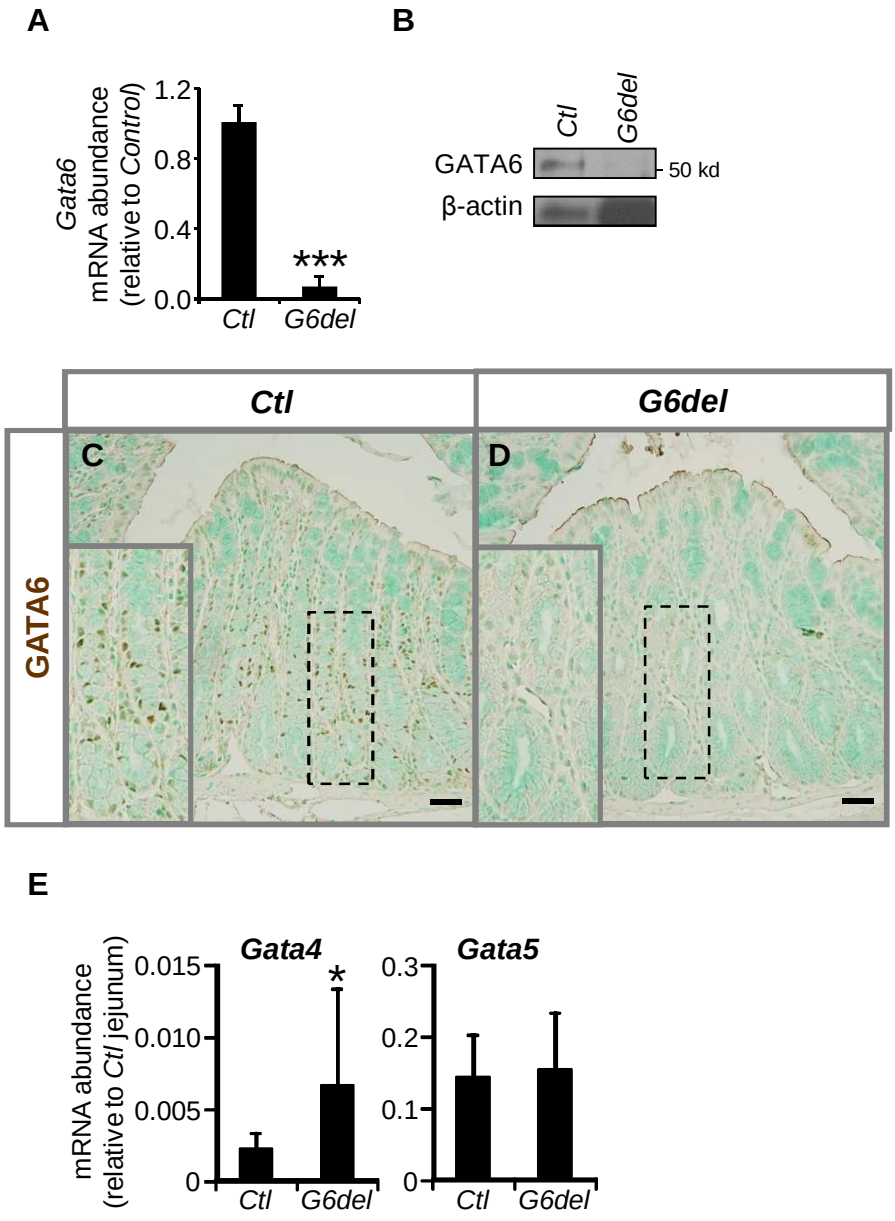
Human Real Time RT-PCR Primers

Gapdh:	*F: 5'-AAGTATGACAACAGCCTC-3'*
	R: 5'-ATGAGTCCTTCCACGATA-3'
Gata6:	*F: 5'-GACTTGCTCTGGTAATAG-3'*
	R: 5'-CTGTAGGTTGTGTTGTGG-3'
Klf4:	*F: 5'-GCCGCTCCATTACCAAGA-3'*
	R: 5'-GATCGTCTTCCCCTCTTTG-3'
Muc2:	*F: 5'-TTTCTACTGGTGTGAGTC-3'*
	R: 5'-TTGGAGGAATAAACTGGA-3'
Tff3:	*F: 5'-TCTTCGTGCCTGAGACTT-3'*
	R: 5'-CAGACTCTCCCCTGACAC-3'
Spink4:	*F: 5'-CCAGTGGCAGCAGGAAAGC-3'*
	R: 5'-CTGGGAACAGGTTGGAGACTCTAC-3'
Car1:	*F: 5'-AACCTATTAGTGTCTCCTA-3'*
	R: 5'-CTGTATGTTCTGAACCAT-3'
Car2:	*F: 5'-CCCTGTCTGTTTCCTATG-3'*
	R: 5'-TTGTCCTGAGAGTCATCA-3'
Slc9a2:	*F: 5'-ATTGAAGATGTTTGTGGAC-3'*
	R: 5'-CTTGACTTTGGTTGGTTT-3'
Slc9a3:	*F: 5'-CCGATGTGGATTTCAATA-3'*
	R: 5'-CTGTAAGATAGAGGAGAGT-3'

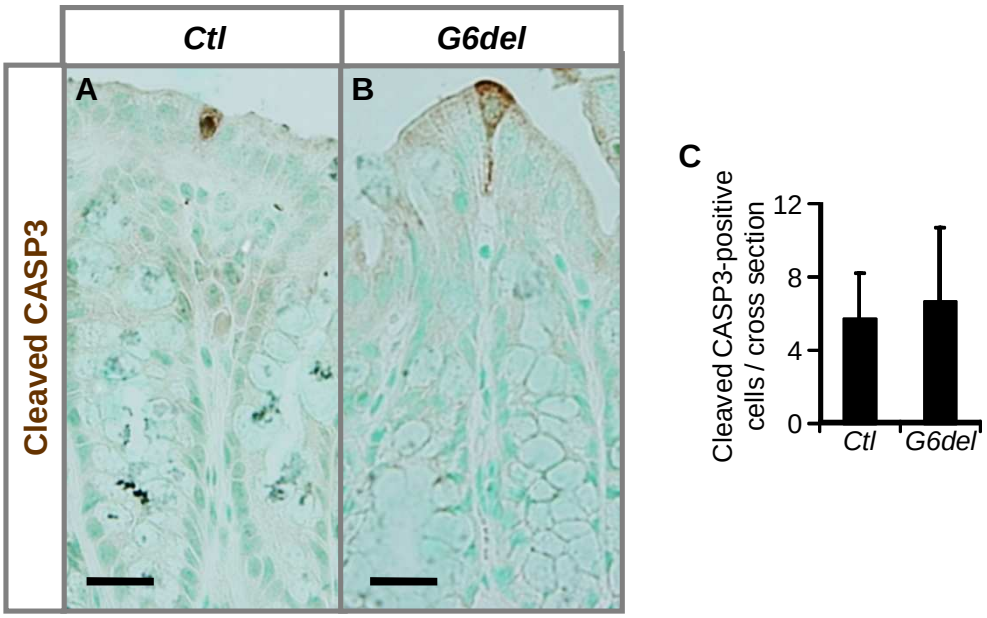
ChIP Primers

α-amylase precursor 2b (TSS):	*F: 5'-GGAAAATAAAGGGTTGGAGC-3'*
	R: 5'-AGTGAATCATGTCAGTATAACAA-3'
USP12:	*F: 5'-TATGGCCAGTGGGAATTGAT-3'*
	R: 5'-GCCTCACCAACCCTCATAAA-3'
Spink4 (TSS):	*F: 5'-TTTTCCTTTCTCTCTTTCTCTATC-3'*
	R: 5'-CCTATTTATAGTGCCGCTCT-3'
Slc9a2 enhancer (-26KB):	*F: 5'-GACCCCTGGCTACAACTG-3'*
	R: 5'-AACCTCAACAAGCAAAGACTAAC-3'

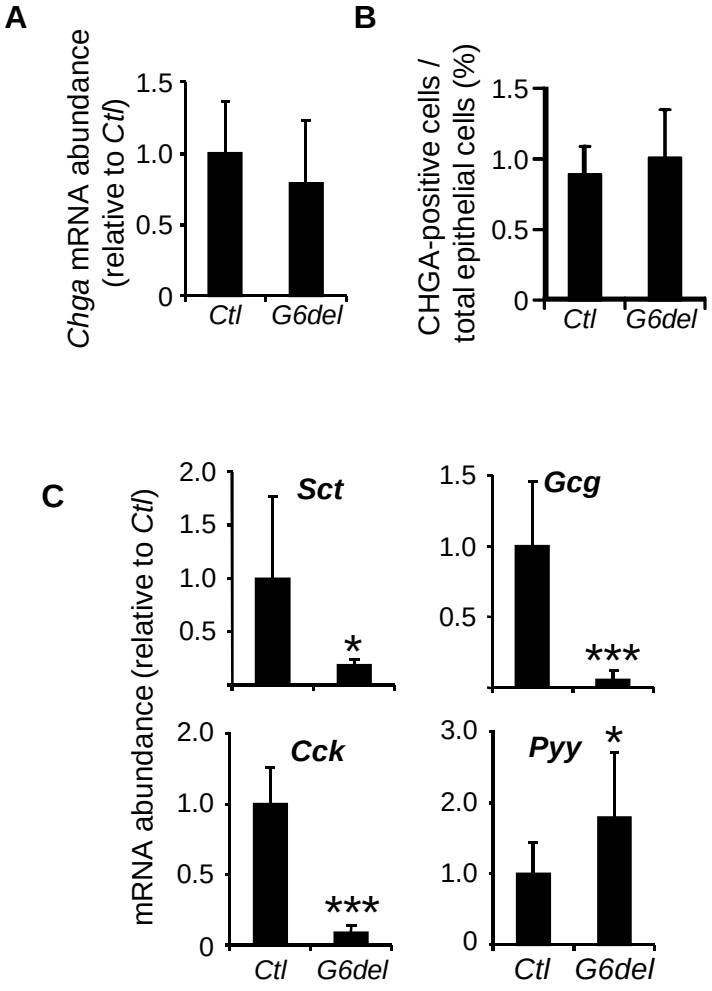
SUPPL.FIG. 3. Human real-time RT-PCR primers and ChIP primers.



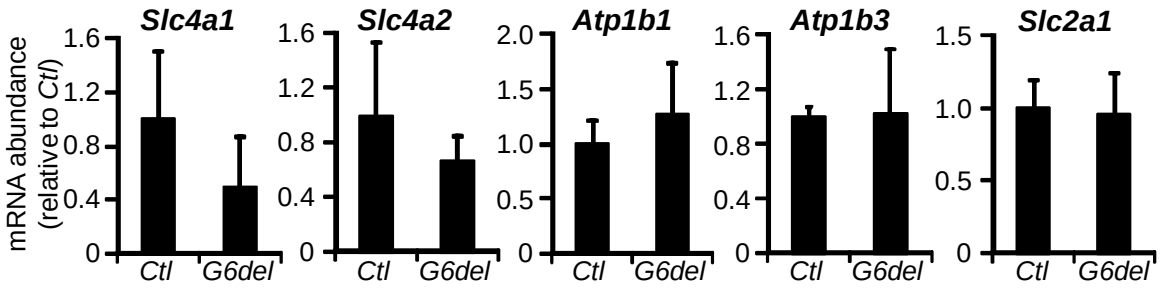
SUPPL.FIG. 4. *Gata6* is down-regulated in *G6del* colon. (A) Quantitative RT-PCR shows a >90% decrease in *Gata6* mRNA abundance in *G6del* as compared to *Ctl* colon (***P<0.001, n=7 in each group). (B to D) Western blotting (B) and immunohistochemistry (C and D) reveal that GATA6 protein is reduced in *G6del* colon. (E) Quantitative RT-PCR shows a 3-fold increase in *Gata4* mRNA abundance in *G6del* as compared to *Ctl* colon (*P<0.05, n=6 in each group). Bars: C and D, 100 µm.



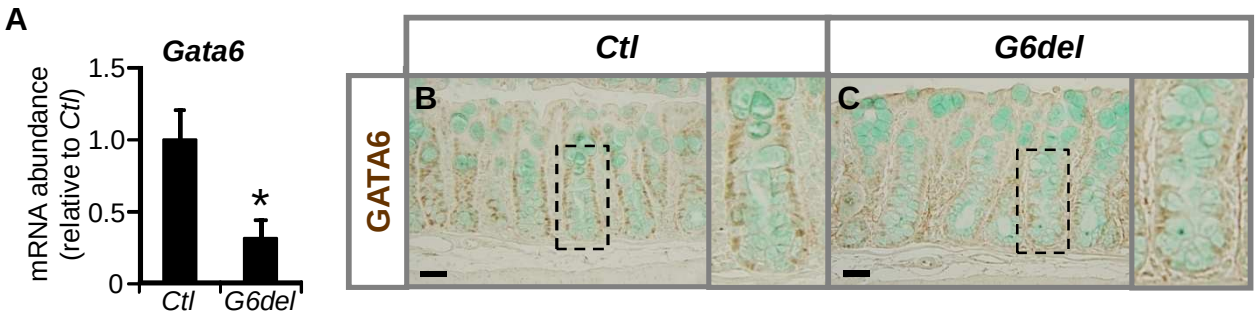
SUPPL. FIG. 5. Intestinal *Gata6* deletion does not alter apoptosis in the mature mouse colon. (A-C) Counts on cross sections of adult mouse colon immunostained with cleaved caspase 3 (CASP3) shows no difference in the number of cleaved CASP3-positive cells per cross section in *G6del* mice as compared to *Ctl*. (n=4 for *Ctl* and n=6 for *C6del*) Bars: A and B, 100 µm.



SUPPL. FIG. 6. Colonic *Gata6* deletion alters the mRNA abundance of specific enteroendocrine hormones. (A) Quantitative RT-PCR shows no difference in chromogranin A (*Chga*) mRNA abundance in *G6del* as compared to *Ctl* colon (n=7 in each group). (B) Counts on sections stained for CHGA reveal no difference in the number of CHGA-positive cells per total number of epithelial cells in *G6del* mice as compared to *Ctl*. (C) Quantitative RT-PCR shows decreases in *Sct*, *Cck* and *Gcg*, and an increase in *Pyy* mRNA abundance in *G6del* as compared to *Ctl* colon (n=7 in each group). *P<0.05, ***P<0.001.



SUPPL.FIG. 7. Colonocyte genes not regulated by colonic *Gata6* deletion. Quantitative RT-PCR shows no differences in *Slc4a1*, *Slc4a2*, *Atp1b1*, *Atp1b3* and *Slc2a1* mRNA abundance in *G6del* as compared to *Ctl* colon (n=6 in each group).



SUPPL.FIG. 8. Short-term 5-day *Gata6* deletion. (A) Quantitative RT-PCR on RNA obtained from adult mouse colon harvested 5 days after daily tamoxifen injections shows a 68% knockdown in *Gata6* mRNA abundance in *G6del* as compared to *Ctl* colon (n=3 or 4). *P<0.05. (B and C) Immunostaining with anti-GATA6 on tissue obtained from adult mouse colon harvested 5 days after daily tamoxifen injections reveals a reduction in GATA6 protein in *G6del* as compared to *Ctl* colon. Bars: A and B, 100 µm.