

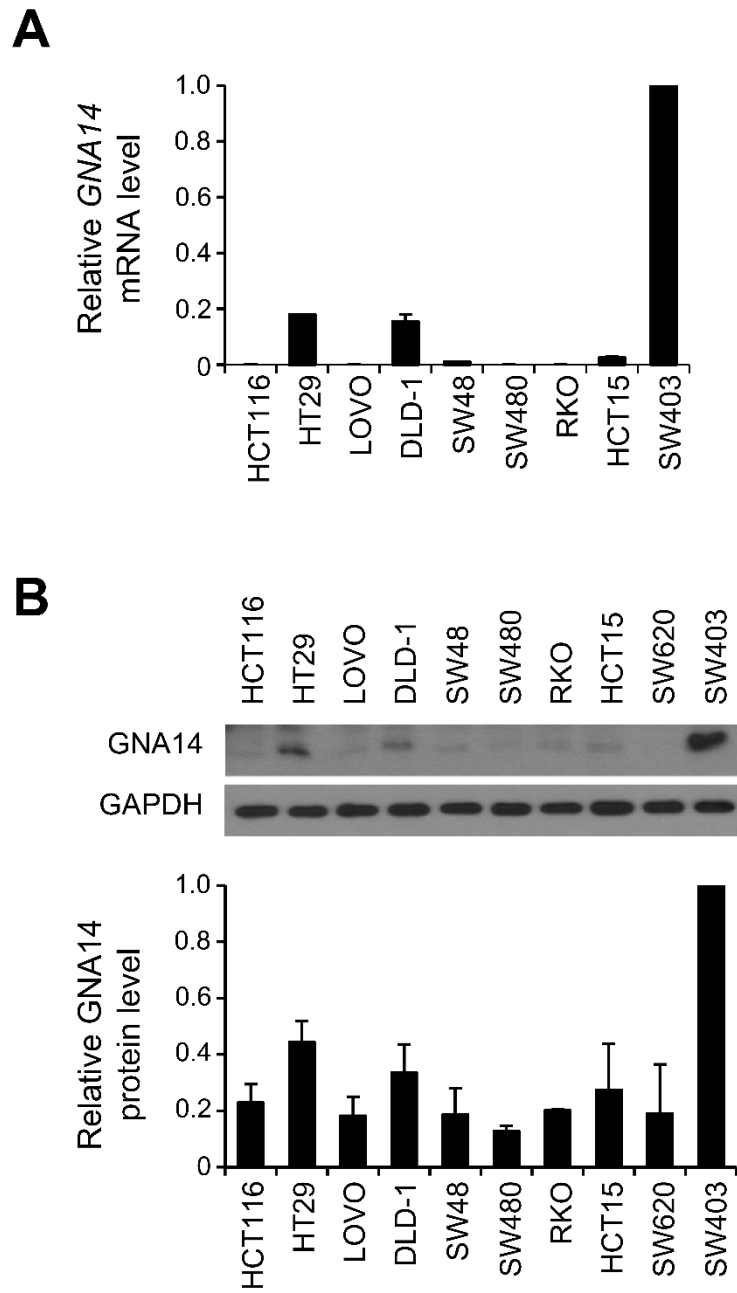
**Table S1.** List of primers for Real-Time PCR.

| Target genes            | Sense (5' to 3')       | Antisense (5' to 3')     |
|-------------------------|------------------------|--------------------------|
| <i>CCND1</i>            | AATCCGCCCTCCATGGTG     | CCAGCAGGGCTTCGATCTG      |
| <i>GNA14</i>            | AGGGAGTACCAGCTGTCGGA   | TTGGGTAGGCACGAATGA       |
| <i>Gna14</i><br>(mouse) | AAGGGCTTCACGAAGCTGGT   | GGGCATTTTCCTTATTCTGC     |
| <i>MYC</i>              | CTTCTCTCCGTCCTCGGATTCT | GAAGGTGATCCAGACTCTGACCTT |
| <i>POLR2A</i>           | GCACCACGTCCAATGACAT    | GTGCGGCTGCTTCCATAA       |
| <i>RNA18SN1</i>         | TCAACTTTCGATGGTAGTCGCC | GGCCTCGAAAGAGTCCTGTATTGT |

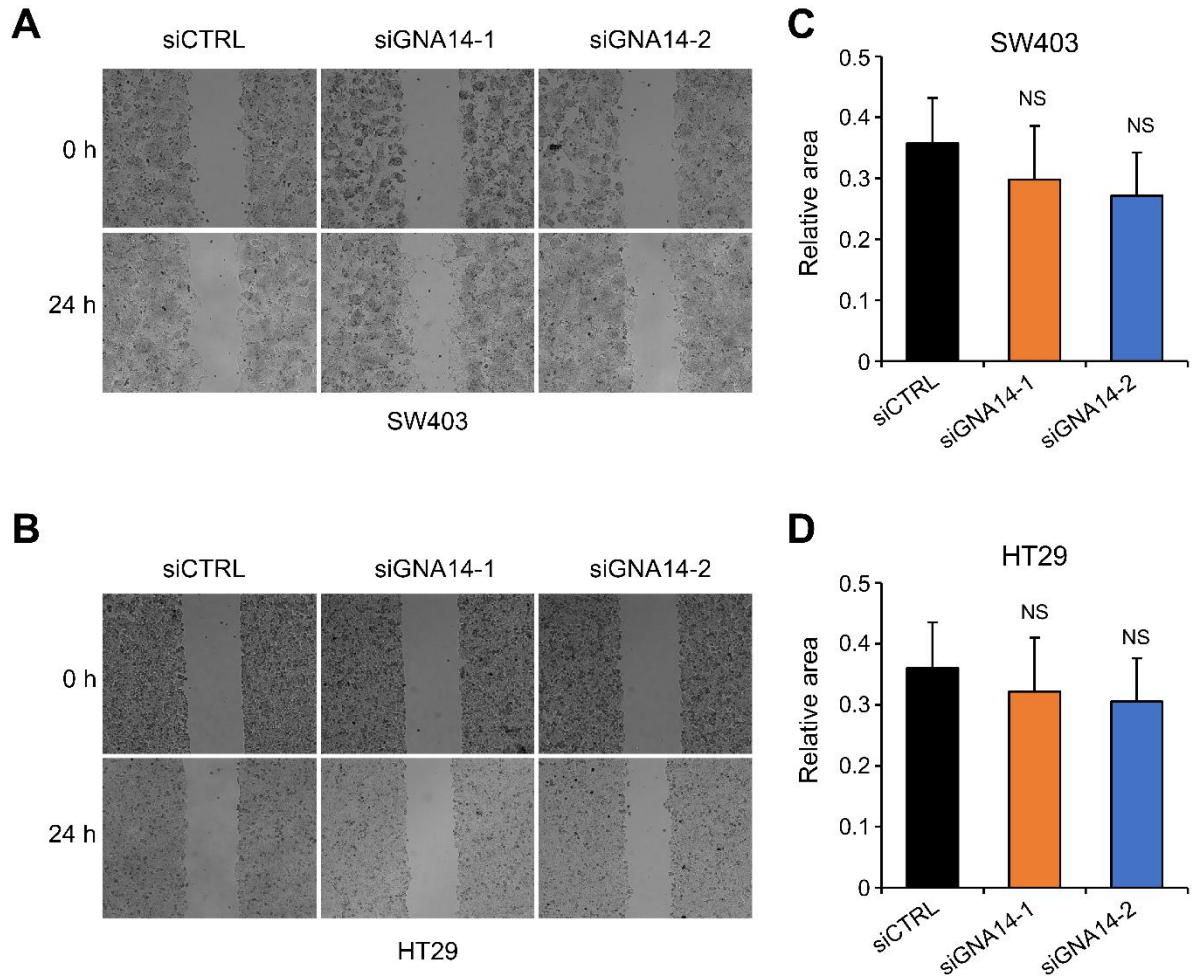
*POLR2A* was used as an endogenous control for human genes, and *RNA18SN1* was used as an endogenous control for mouse gene.

**Table S2.** List of antibodies used in western blots and dilution factors.

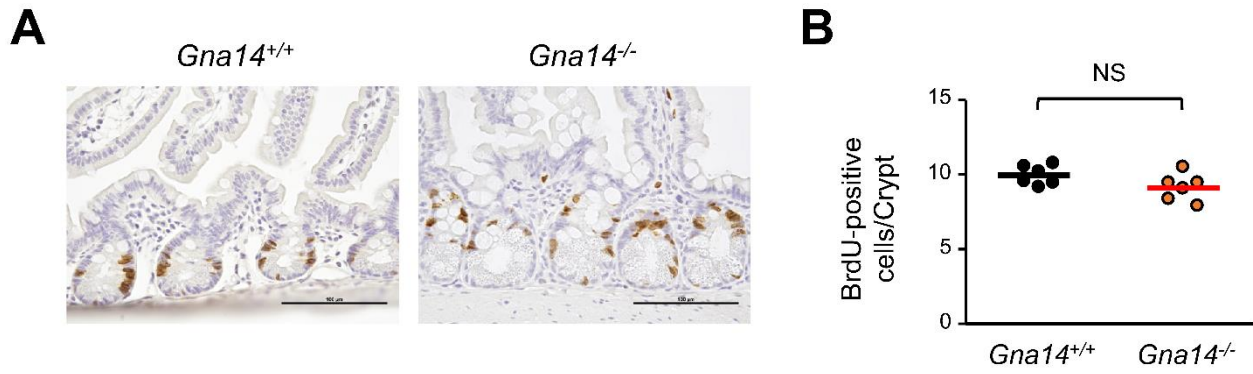
| Target Antibodies                | Company                | Cat No.    | Dilution factor |
|----------------------------------|------------------------|------------|-----------------|
| AKT                              | Cell Signal Technology | 4691       | 1:2,000         |
| phospho-AKT (T308)               | Cell Signal Technology | 9275       | 1: 2,000        |
| phospho-AKT (S473)               | Cell Signal Technology | 9271       | 1: 1,000        |
| $\beta$ -catenin                 | Cell Signal Technology | 9582       | 1: 20,000       |
| phospho- $\beta$ -catenin (S675) | Cell Signal Technology | 4176       | 1: 50,000       |
| CCND1                            | Invitrogen             | MA5-14512  | 1: 2,000        |
| ERK1/2                           | Cell Signal Technology | 9102       | 1: 2,000        |
| phosphor-ERK1/2 (T202/Y204)      | Cell Signal Technology | 9101       | 1: 20,000       |
| GAPDH                            | AB Frontier            | LF-PA0018  | 1: 6,000        |
| GNA14                            | MyBioSource            | MBS7005189 | 1: 5,000        |
| MYC                              | Santa Cruz             | sc-40      | 1:2,000         |



**Figure S1.** Expression of *GNAI4* in colon cancer cell lines. (A) *GNAI4* mRNA levels in the indicated cells were measured by qRT-PCR analysis ( $n = 2$ ). (B) The protein expression level of *GNAI4* was analyzed by western blotting ( $n = 2$ ).



**Figure S2.** Effect of *GNA14* knockdown on cell migration. (A, B) Wound-healing assay was performed on SW403 and HT29 cells 48 h after siRNA transfection. Representative pictures taken at 0 and 24 h after removal of the block are shown. (C, D) The area was calculated at 0 and 24 h after block removal, and the relative wound healing area was expressed as a graph. Values are presented as mean  $\pm$  SEM ( $n = 3$ ). NS means statistically nonsignificant.



**Figure S3.** Effect of *Gna14* on cell proliferation in crypts. (A) Representative images of BrdU-stained intestinal crypt are shown (400x). Scale bar, 100  $\mu$ m. (B) Each dot (right) is the average number of BrdU-positive cells per crypt in each mouse. The horizontal lines represent the averages of all mice ( $n = 6$  per genotype). NS means statistically nonsignificant.

File S1: Original western blots.

Original pictures

Figure 1B

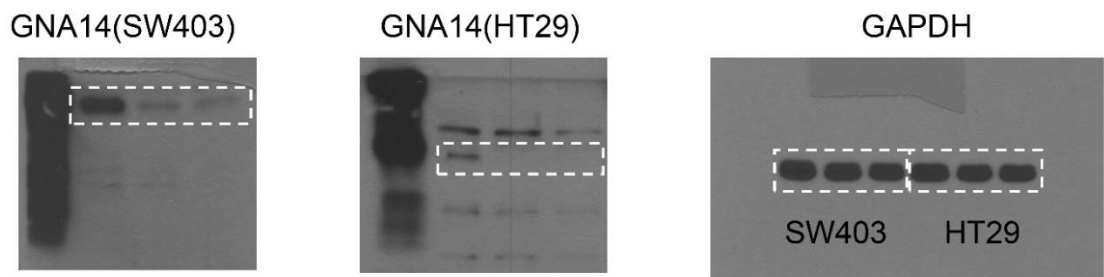


Figure S1B

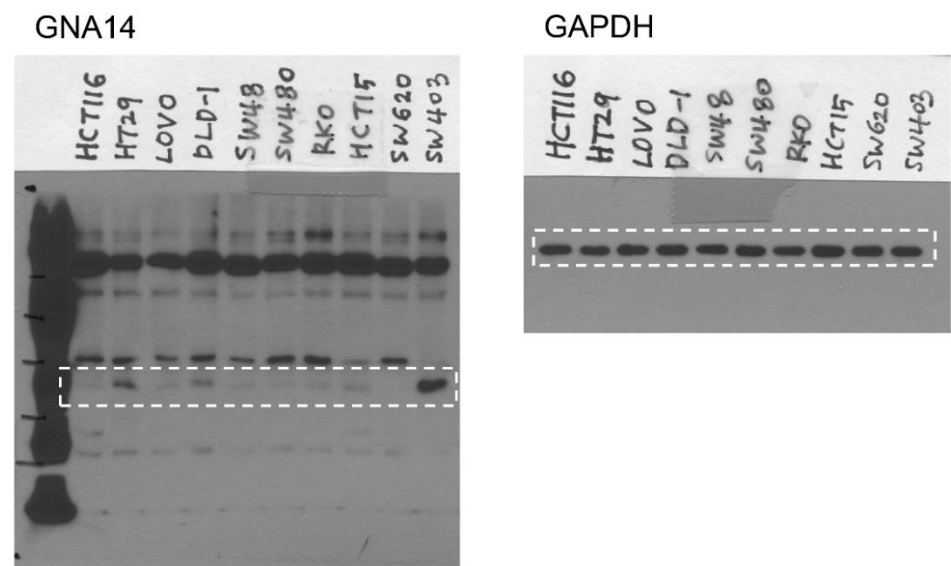


Figure 2B

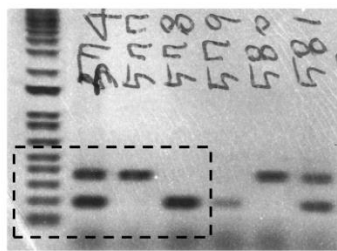
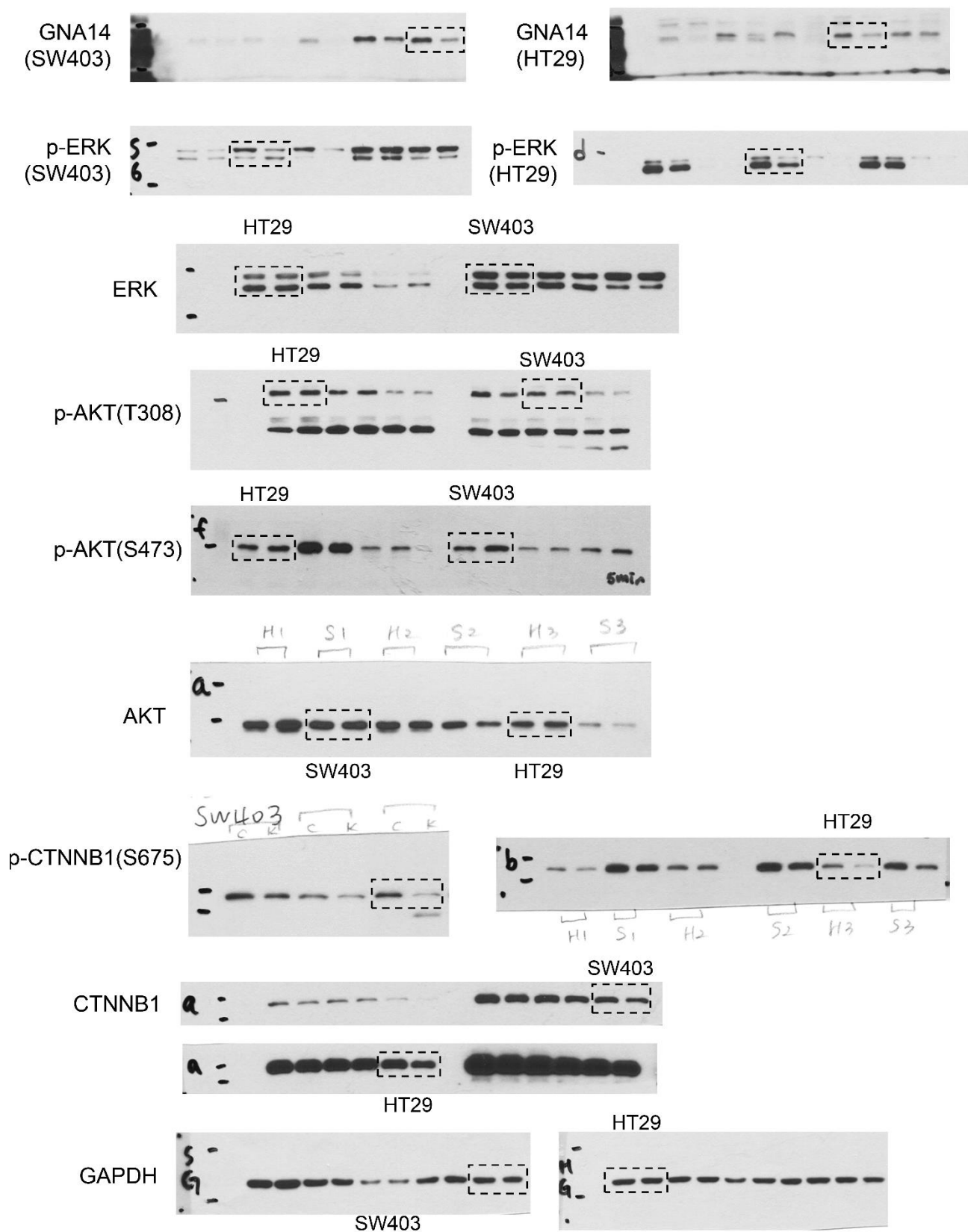


Figure 2D



**Figure 6A**



**Figure 6D**

