

SUPPLEMENTARY TABLE, FIGURES AND LEGENDS

‘Characterization of LGR5 stem cells in colorectal adenomas and carcinomas’

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Supplementary Table 1

Table showing the distribution of samples that were collected from the proximal colon, distal colon and rectum.

Proximal colon = caecum, ascending colon, hepatic flexure, transverse colon; Distal colon = splenic flexure, descending colon, sigmoid colon; Rectum = rectosigmoid, rectum.

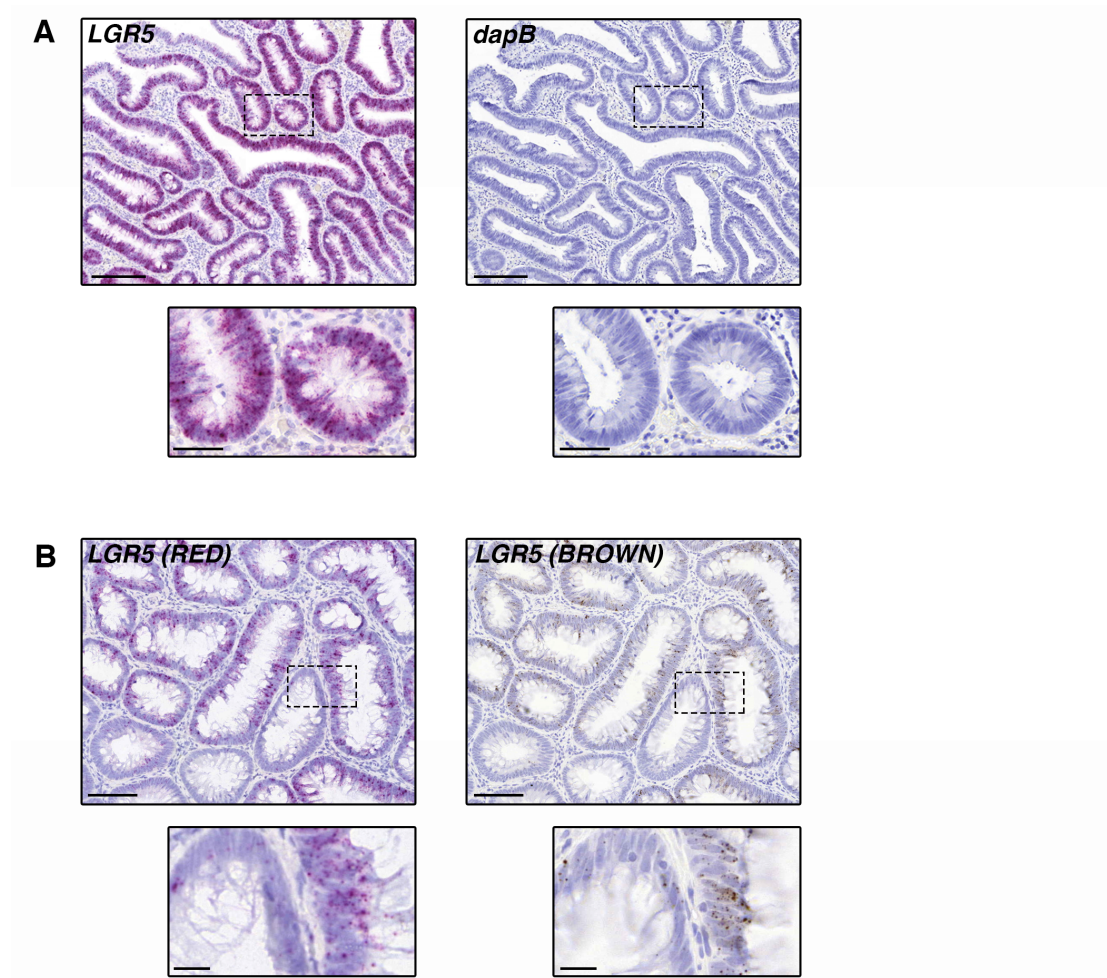
HPP = hyperplastic polyp, SSA/P = sessile serrated adenoma/polyp, TSA = traditional serrated adenoma, CRC = colorectal cancer.

| Sample group | Proximal colon | Distal colon | Rectum | Total |
|----------------------|----------------|--------------|--------|--------------|
| Normal | 4 | 3 | 0 | 7 |
| HPP | 3 | 2 | 2 | 7 |
| SSA/P | 6 | 0 | 0 | 6 |
| TSA | 0 | 1 | 5 | 6 |
| Non-serrated adenoma | 5 | 8 | 4 | 17 |
| CRC | 7 | 11 | 5 | 23 |

Supplementary Figure S1. Validation of ISH detection of *LGR5*

A. Representative images showing serial sections hybridized with the *LGR5* probe (left panel) or the *dapB* negative control probe (right panel). Scale bars represent 200 micron, scale bars of inserts represent 50 micron. Site = transverse colon.

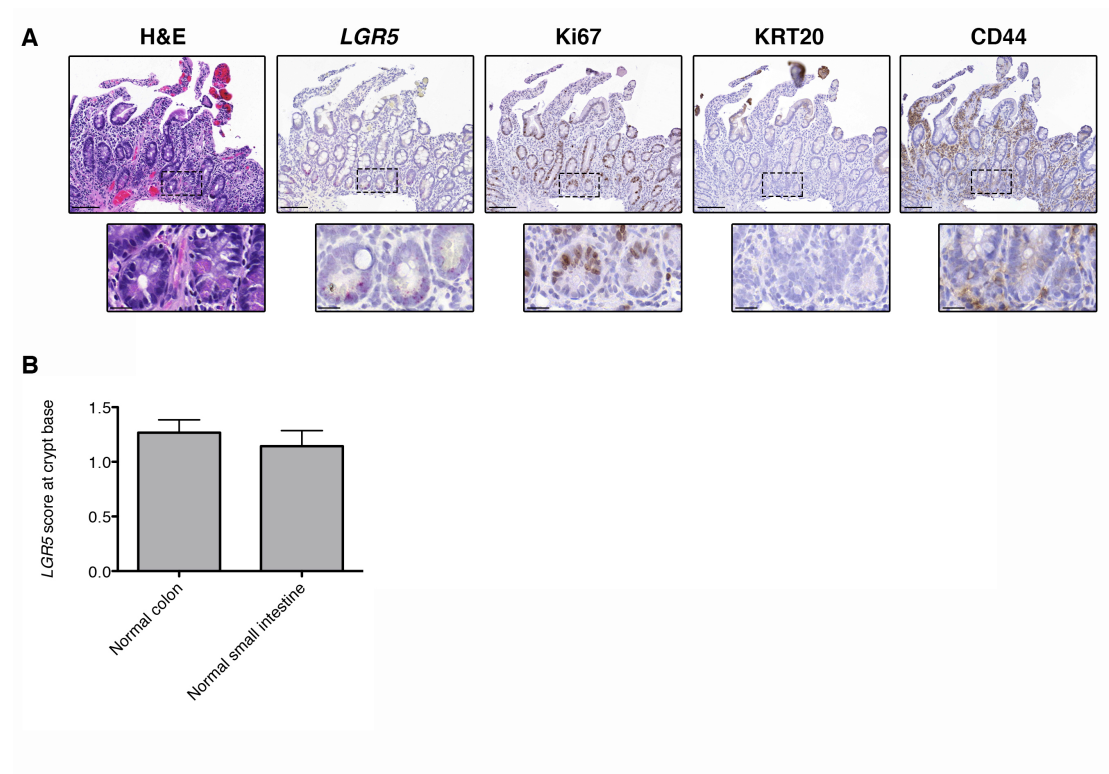
B. Representative images showing serial sections hybridized with the *LGR5* probe, then detected with Fast Red (left panel) or DAB (right panel). It can be seen that *LGR5* is detected in the same cells, regardless of the detection method. Scale bars represent 100 micron, scale bars of inserts represent 20 micron. Site = sigmoid colon.



Supplementary Figure S2. *LGR5* expression in small intestine

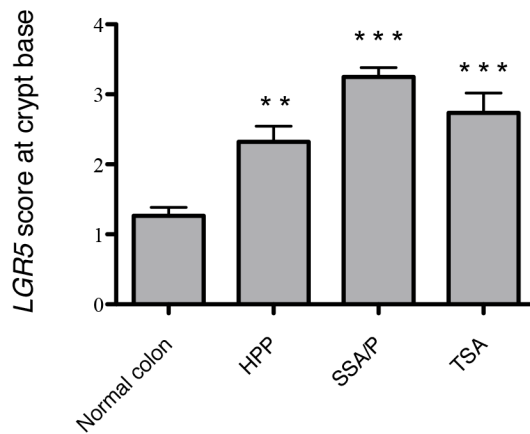
A. Representative H&E staining, *in situ* hybridization (*LGR5*; pink) and immunohistochemical staining (Ki67, KRT20, CD44; brown) in a human small intestine sample. Scale bars represent 100 micron, scale bars of inserts represent 20 micron.

B. Graph showing average *LGR5* staining intensity at the base of normal colon and small intestine crypts. Mean number of crypts counted = 11 per group. Error bars represent mean \pm SEM.



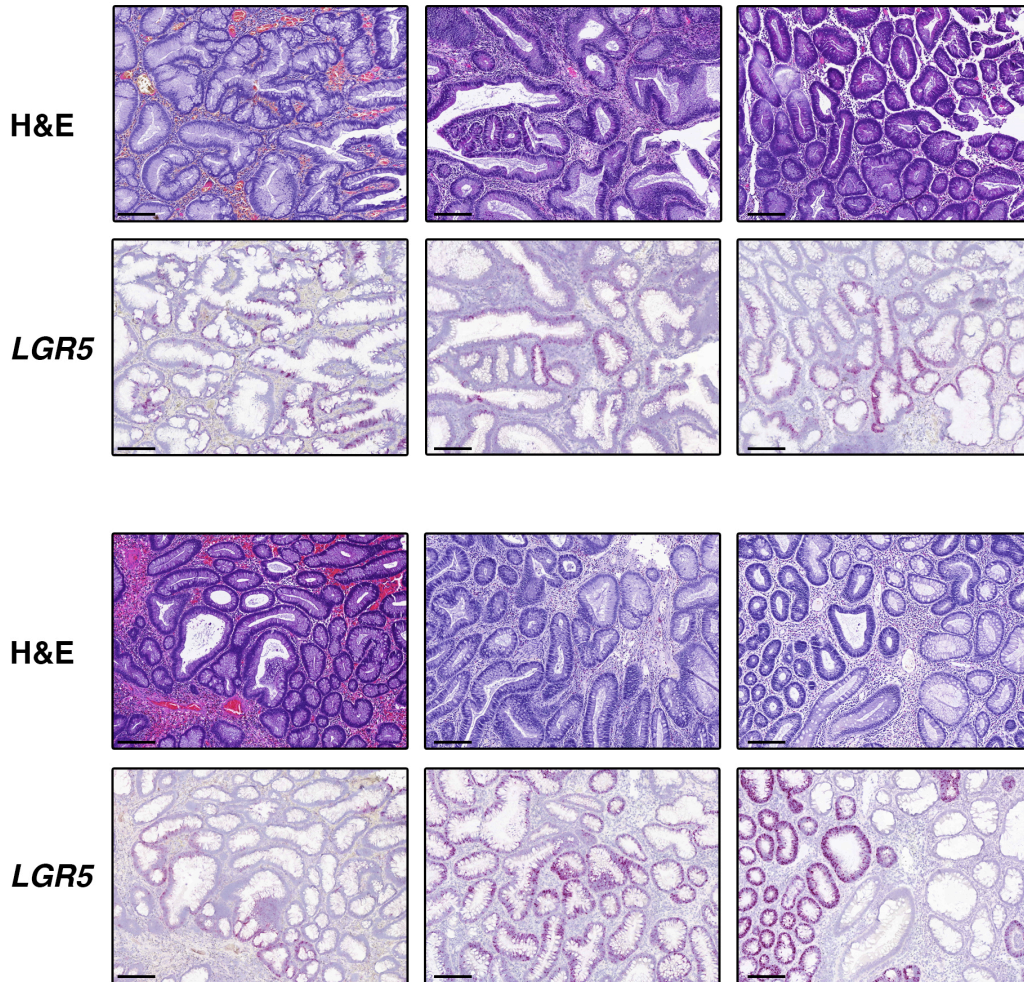
Supplementary Figure S3. Quantification of *LGR5* at the crypt base

Graph showing average *LGR5* staining intensity at the crypt base in normal colon, hyperplastic polyps (HPP), sessile serrated adenomas/polyps (SSA/P) and traditional serrated adenomas (TSA). Mean number of crypts counted = 23 per group. Error bars represent mean \pm SEM, ** $p < 0.01$ and *** $p < 0.001$ by the two-sided Student's t test.



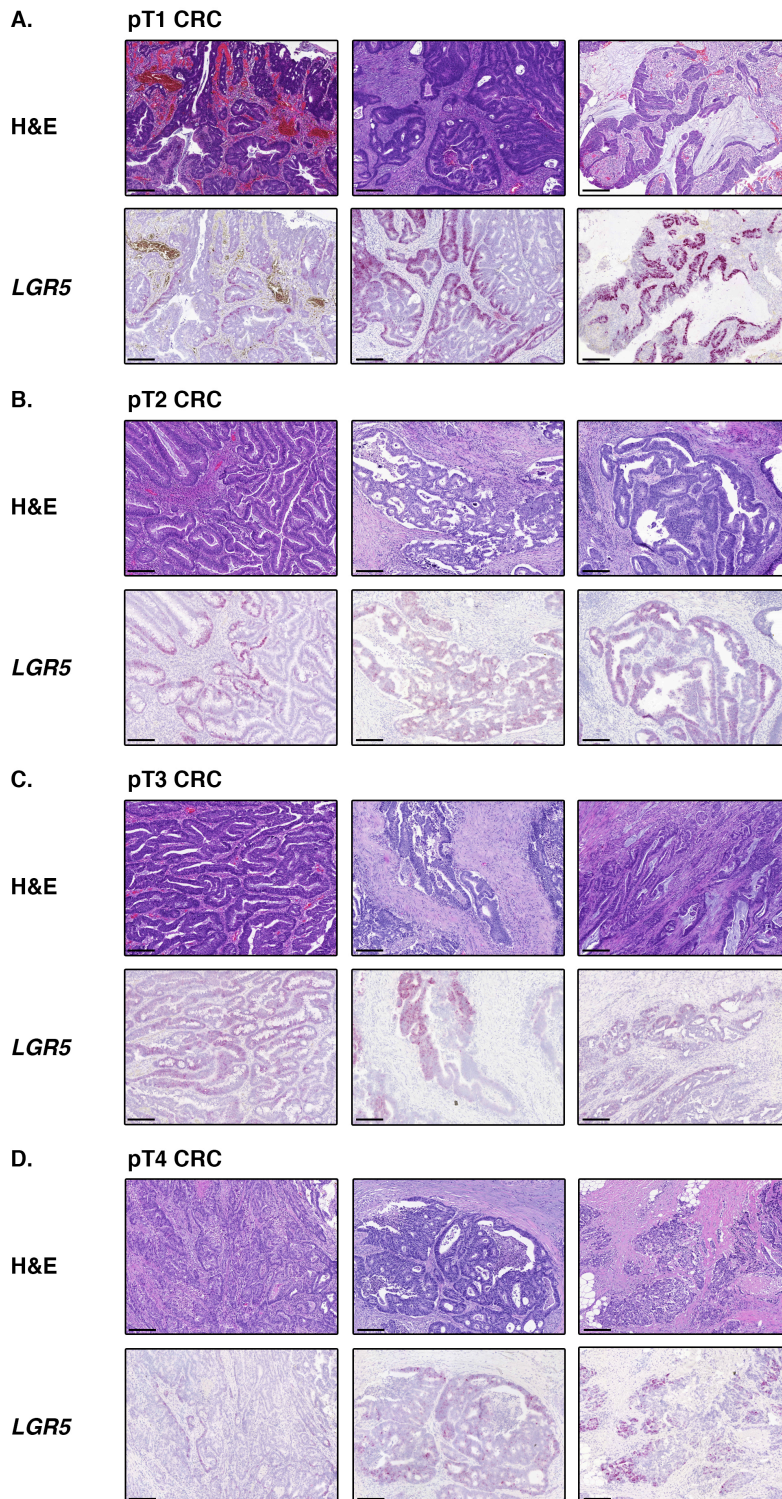
Supplementary Figure S4. *LGR5* mRNA expression in non-serrated adenomas

Representative H&E staining and *in situ* hybridization (*LGR5*; pink) in non-serrated adenomas from six patients. Scale bar represents 200 micron.



Supplementary Figure S5. *LGR5* expression in adenocarcinomas

Representative H&E staining and *in situ* hybridization (*LGR5*; pink) in adenocarcinomas of stages pT1 (A.), pT2 (B.), pT3 (C.) and pT4 (D.). Scale bars represent 200 micron.



Supplementary Figure S6. Semiquantitative analysis of Ki67, KRT20 and CD44 expression in adenocarcinomas

A. Representative images showing no marker expression (0), weak expression (1), moderate expression (2) and strong expression (3). Scale bars represent 50 micron.

B. Graph showing the distribution of expression levels of Ki67, KRT20 and CD44 in adenocarcinomas (n = 23).

