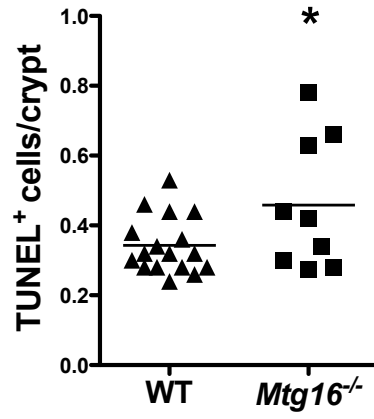
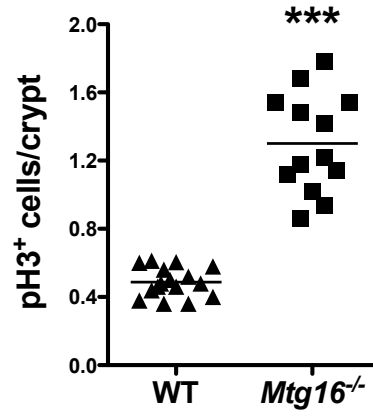


Supplementary Figure 1

A



B

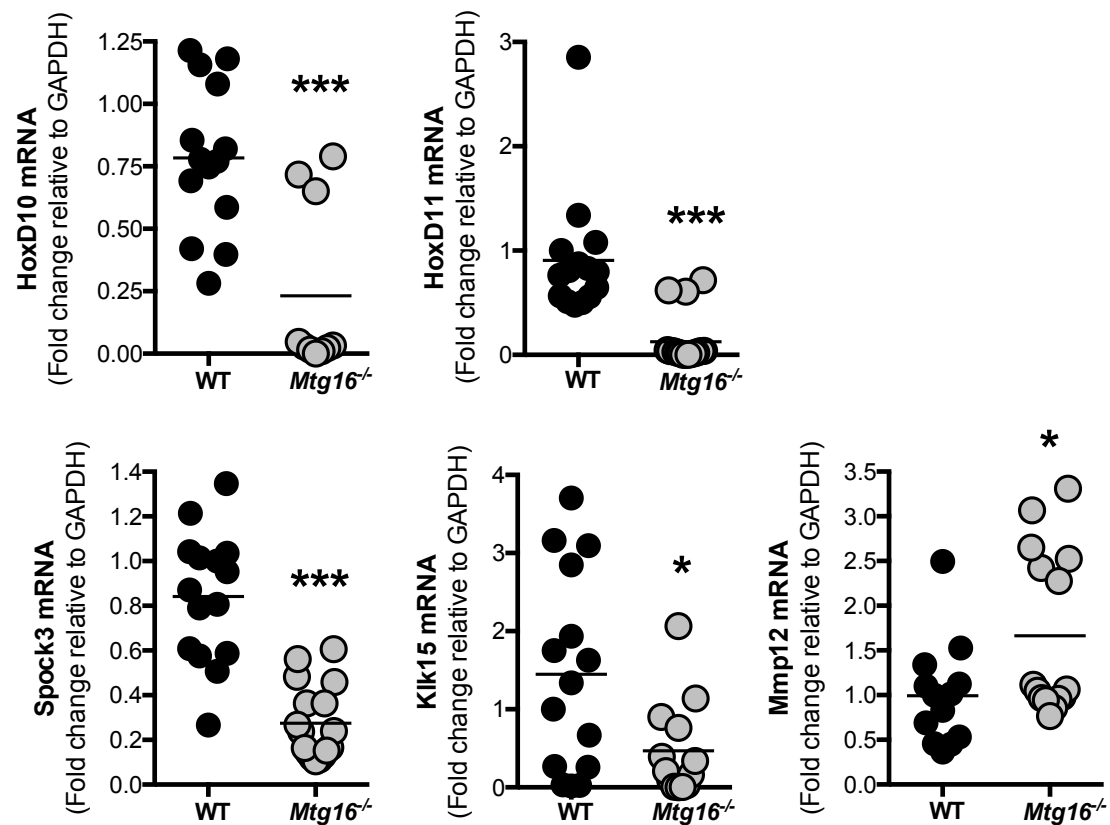


Supplementary Figure 2

A

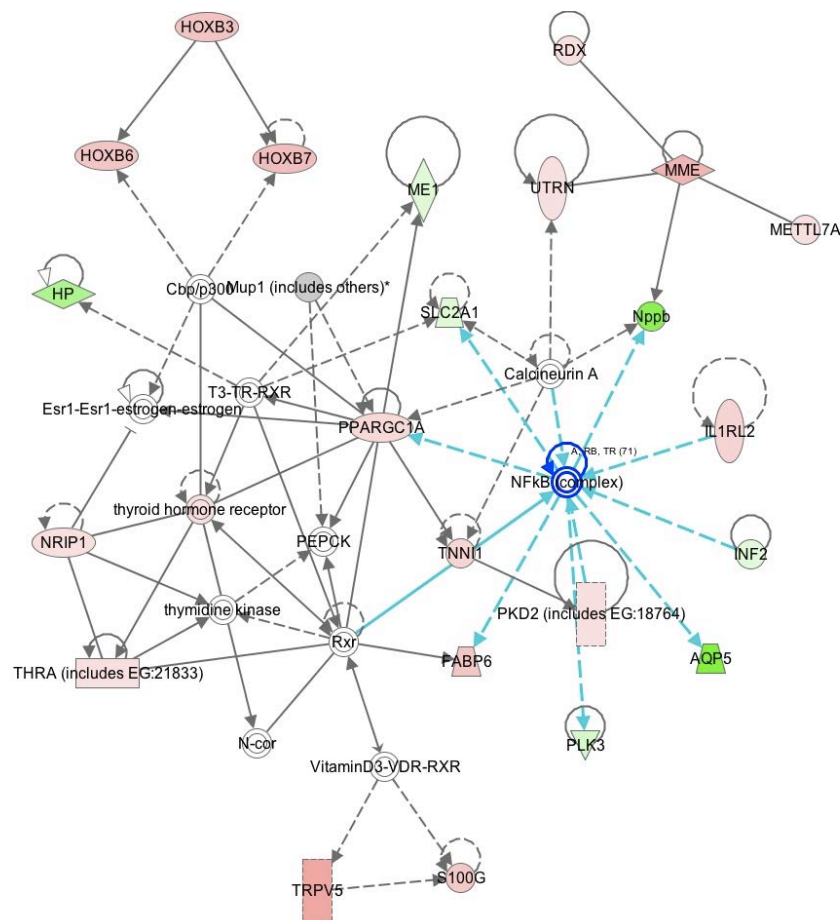
Gene	RNAseq Expression Changes (+ = upreg in <i>Mtg16</i> ^{-/-})
HoxD10	-4.78
HoxD11	-5.6
Spock3	-2.82
Klk15	-2.42
Mmp12	+2.72

B



Supplementary Figure 3

A



B

Top Networks identified using Ingenuity Pathways Analysis:

- Musculoskeletal development & function, Organismal injury and Cancer
- Connective tissue development & function, Tissue morphology

Central Nodes:

- NF-Kappa B (NFkB): regulates IL6, TNF, MMPs and PTGS2
- Histone deacetylase: HDAC (regulates TP53, E-cadherin and TNF)
- Ctbp: can activate E-cadherin, TP53, ; binds ZEB1, TCF and HDAC1

Top Upstream Regulators:

- HOXD9: homeobox D9; regulates HOXD11, HOXD10
- TNF: tumor necrosis factor; regulates NFkB, IL6, MMPs, PTGS2
- IL1B: interleukin 1, beta; regulates PTGS2, NFkB, TNF, MMPs
- CTNNB1: beta-catenin (catenin (cadherin-associated protein), beta 1; regulates MMPs, p16
- ADCYAP1: adenylate cyclase activating polypeptide; regulates TNF, FOS

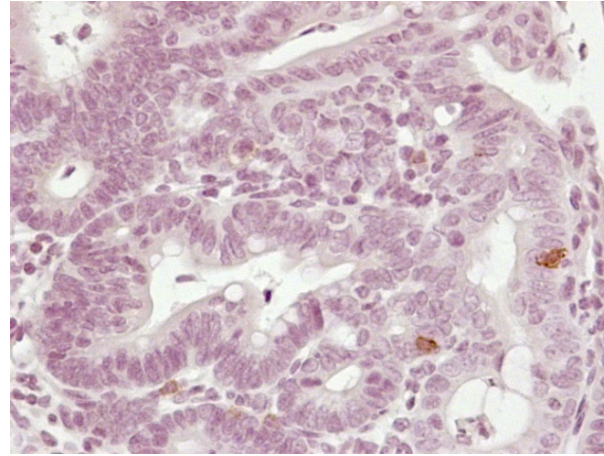
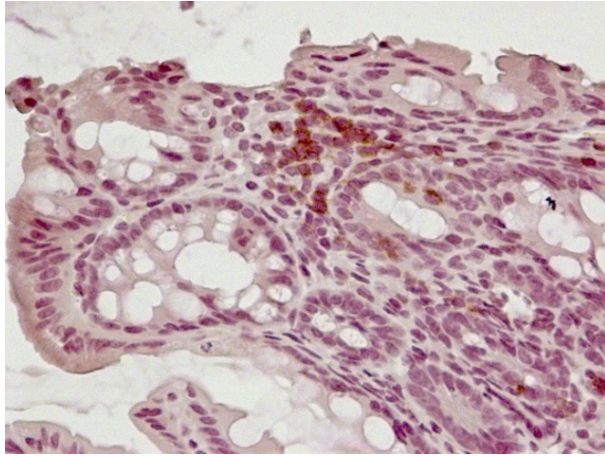
Supplementary Figure 4

A

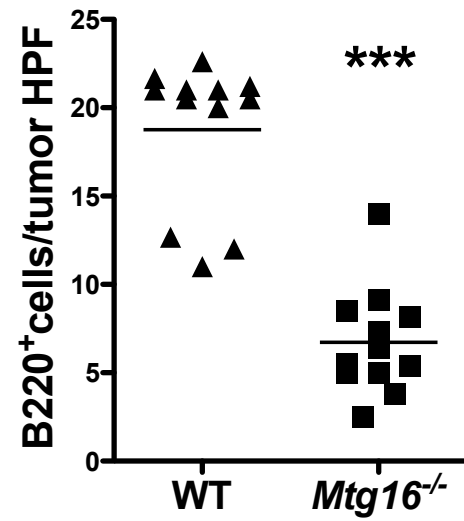
WT

Mtg16^{-/-}

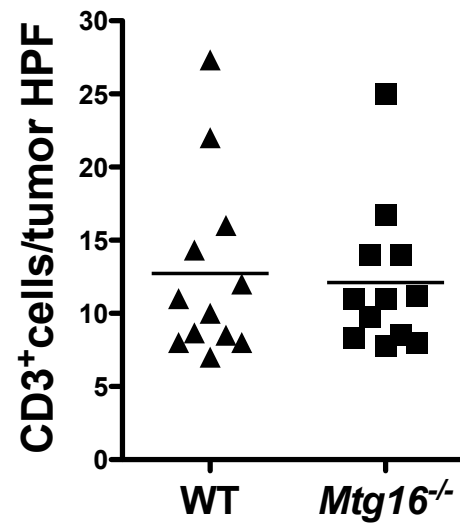
B220



B

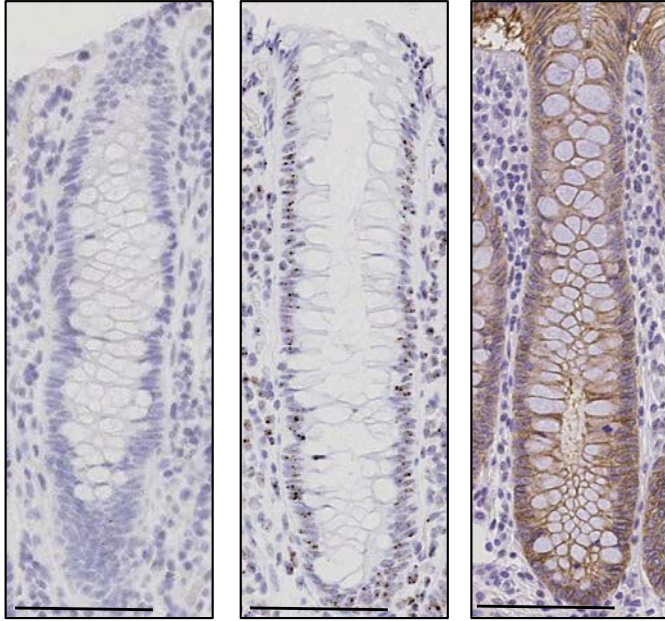


C



Supplementary Figure 5

Normal Colon



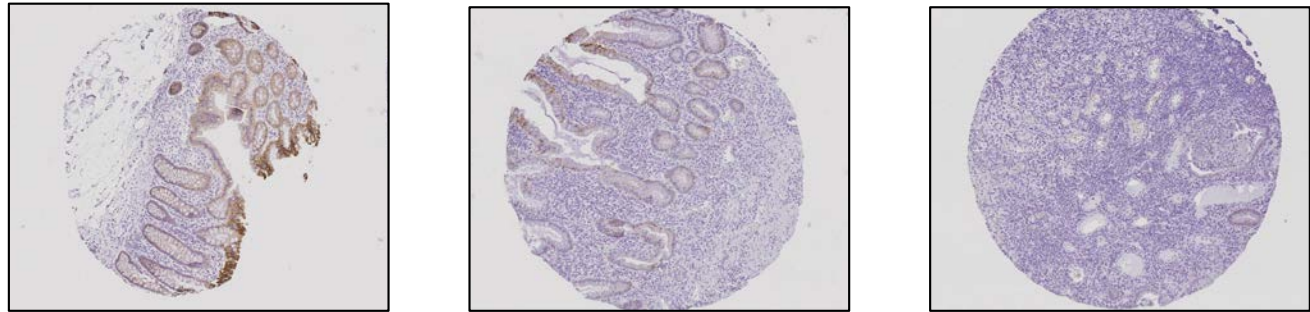
(-) control

asMtg16

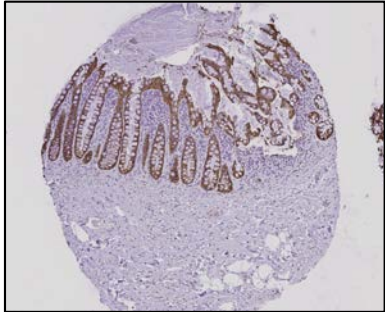
α Mtg16

Supplementary Figure 6

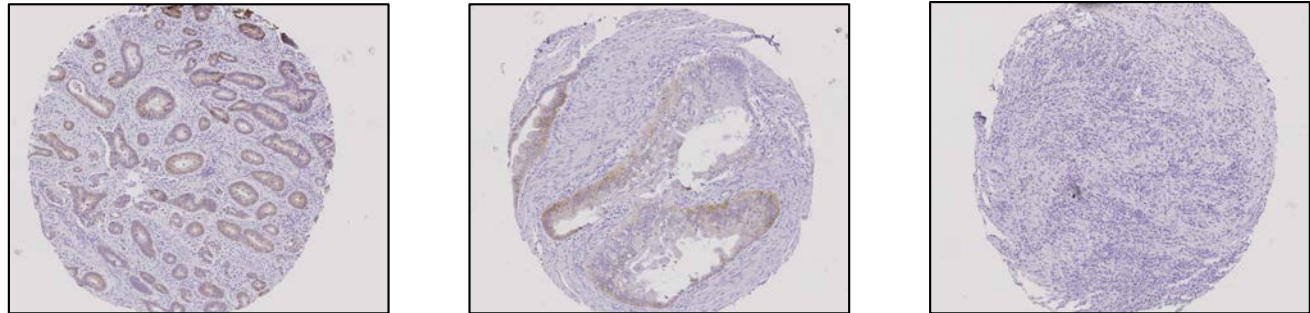
Spectrum of staining in colitis samples



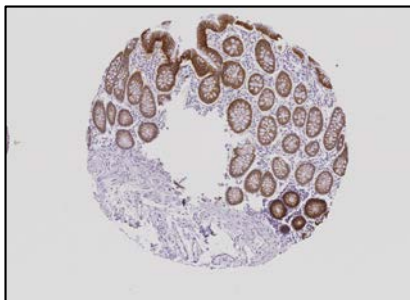
Normal colon



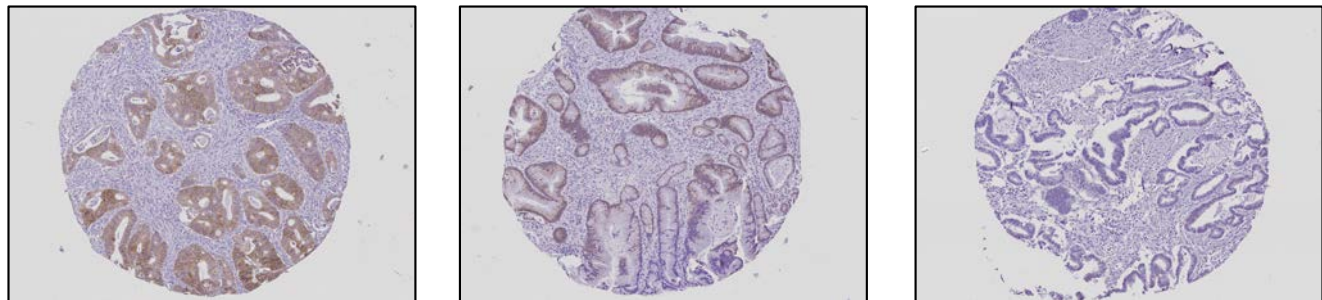
Spectrum of staining in colitis-associated cancer samples



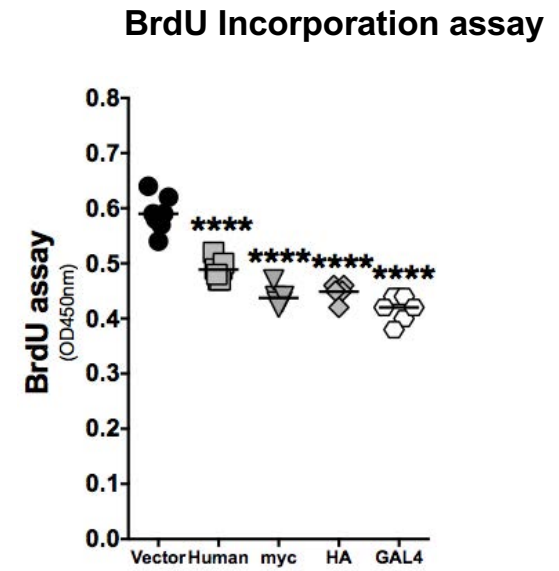
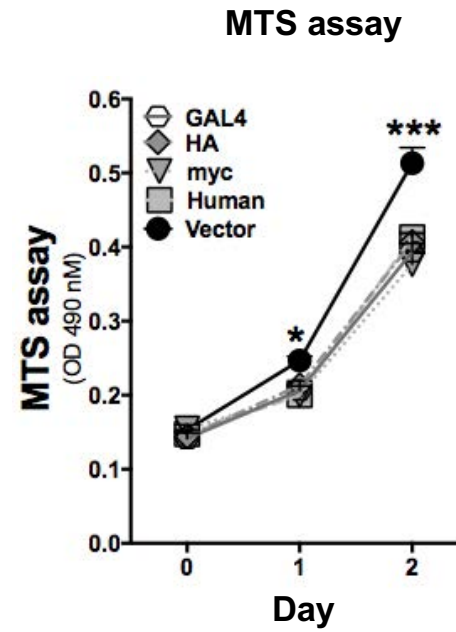
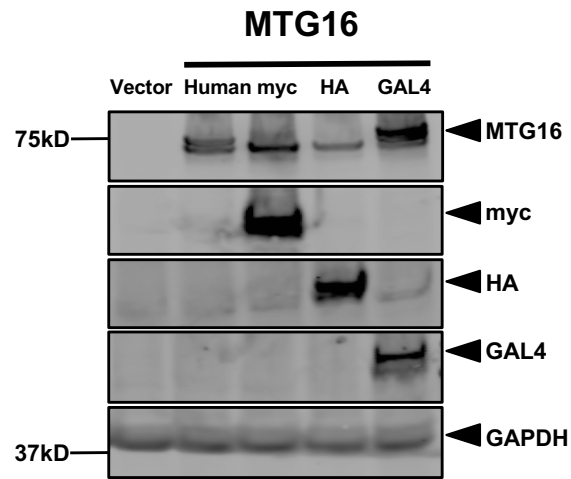
Normal colon



Spectrum of staining in CRC samples



Supplementary Figure 7



Supplementary Table 1. Clinical characteristics of Normal and Colorectal Cancer samples.

	Normal (n=5)	CRC (n=102)
Average Age (s.d.)	58 ± 8.2	64 ± 14.9
Gender	Male (n=3) Female (n=2)	Female (n=53) Male (n=49)
Race	White (n=5) Black (n=0)	White (n=83) Black (n=19)
Grade if applicable	n/a	1 (n=14) 2 (n=62) 3 (n=26)

Supplementary Table 2. Clinical characteristics of Normal, Ulcerative colitis non-dysplastic (Control), UC with dysplasia, UC with colitis-associated cancer.

	Normal (N=5)	UC Control (N=5)	UC Patients with Dysplasia (N=6)	UC Patients With Cancer (N=23)
Average Age (s.d.)	60.9 + 11.5	55+ 10.2	53.2 + 15.5	51.4 + 18.3
Tumor Grade	n/a	n/a	n/a	Grade 1 (N=3), Grade 2 (N=5), Grade 3 (N=12), Unknown (N=3)
Location if known	n/a	n/a	n/a	Descending (N=2), Transverse (N=3), Left (N=2), Ascending (N=1), Sigmoid (N=2), Rectum (N=6), Hepatic fixture (N=1), Unknown (N=5)
Lymph Node Involvement	n/a	n/a	n/a	Positive (N=10), Negative (N=11), Unknown (N=2)
Average Tumor Size	n/a	n/a	n/a	4.1 + 2.6 cm
Mesenteric Deposits	n/a	n/a	n/a	Absent (N=11), Present (N=7), Unknown (N=5)