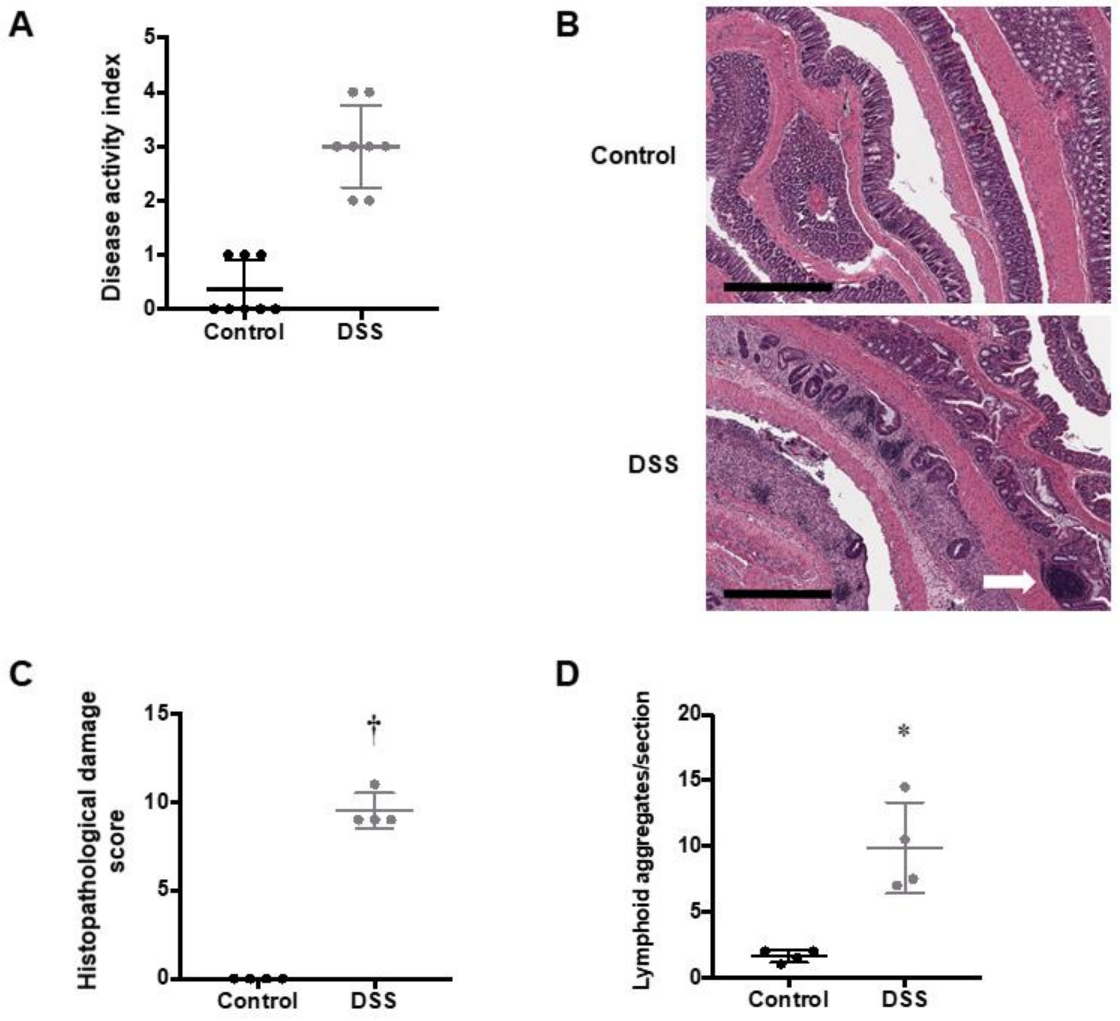
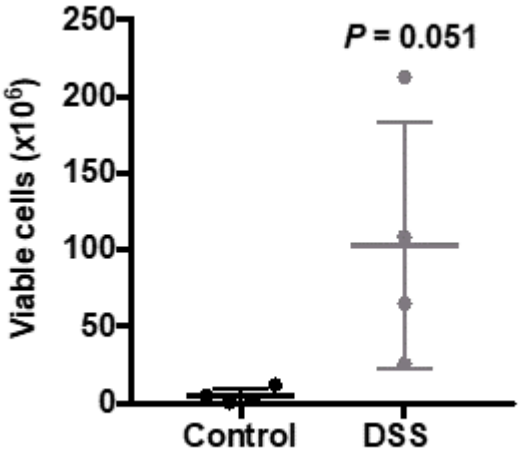


SUPPLEMENTAL FIGURE 1 Histopathological analysis of control and DSS-treated colons

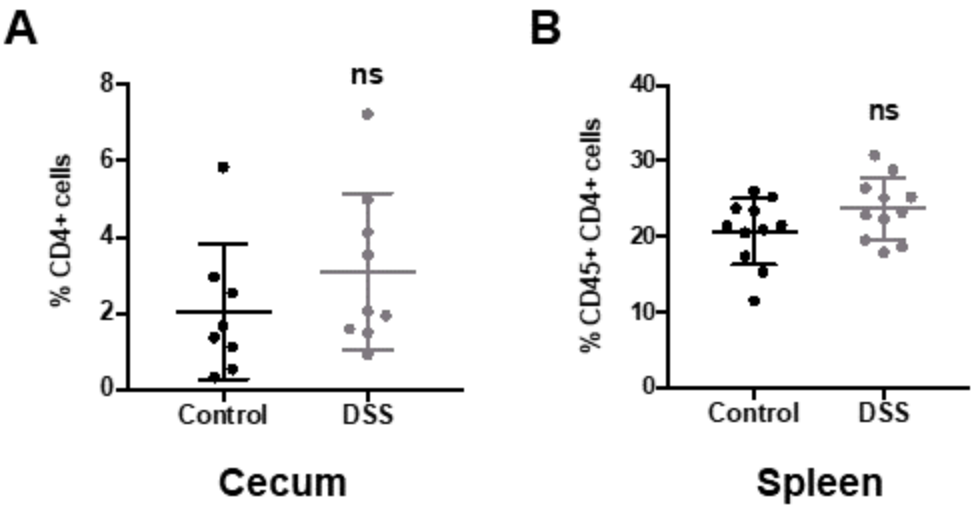
(A) Clinical symptoms were quantified using the disease activity index, which scored symptoms including weight loss, stool consistency, and fecal bleeding, at the time of sacrifice (n=8). (B) Representative images of hematoxylin and eosin-stained 4 μm sections of colonic Swiss rolls from control (left) and DSS-treated (right) mice. A lymphoid aggregate is denoted with a white arrow. Magnified 4X; scale bar: 500 μm. (C) Histopathological damage as determined by severity of surface epithelial loss, crypt destruction, and inflammatory cell infiltration into

mucosa was quantified on 4 μm Swiss roll sections of colon tissue. Damage was quantified as follows: 0: normal, 1: localized and mild, 2: localized and moderate, 3: localized and severe, 4: extensive and moderate. (n=4). (D) Lymphoid aggregates (including normal gut-associated lymphoid tissues and tertiary lymphoid structures) in each section of colon were counted (n=4). * $p<0.005$, † $p<0.0001$.



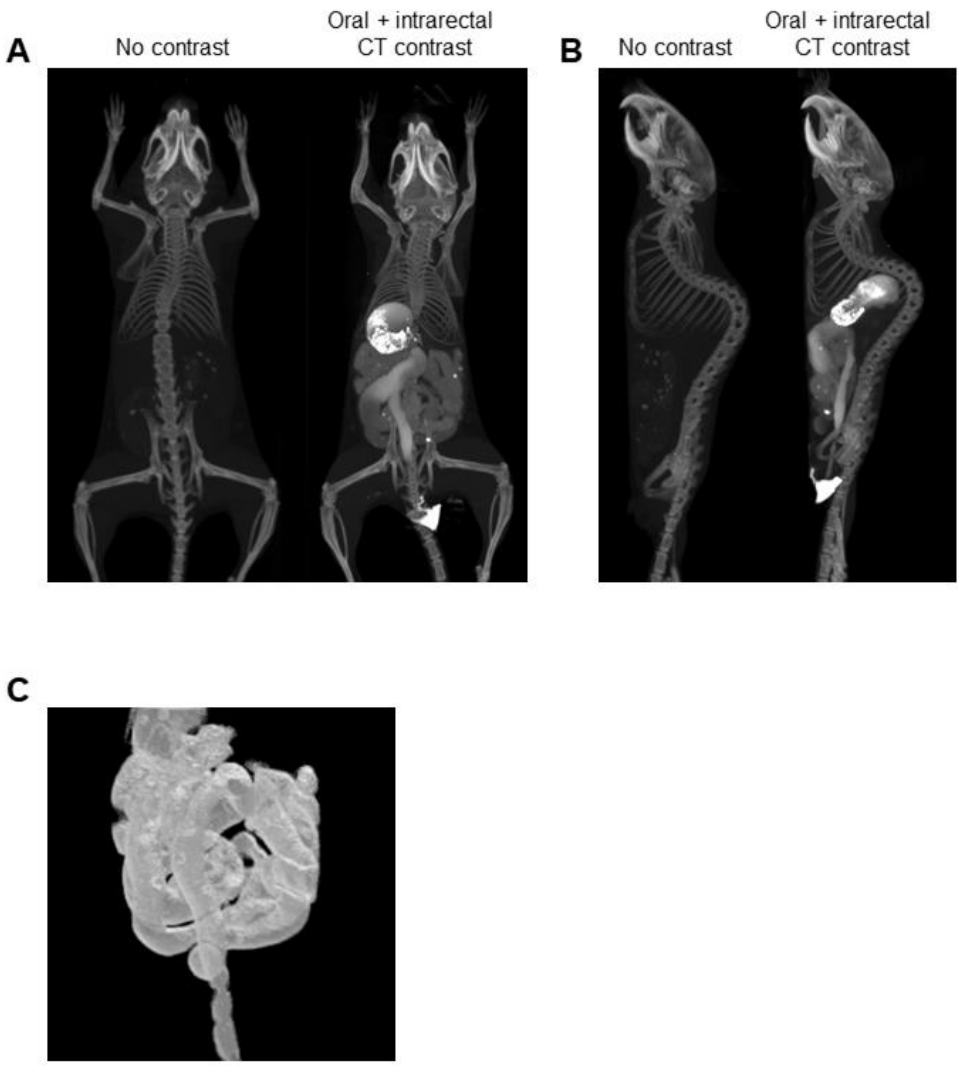
SUPPLEMENTAL FIGURE 2 MLN cellularity

To determine cellularity, two MLN were mashed gently through a 70 μm nylon filter, rinsed with 2.5ml PBS/2% FBS, and viable cells were enumerated using a Vi-Cell XR automatic cell counter (Beckman Coulter). Each point represents the average value of two MLN from a single control or DSS-treated mouse (n=4 mice).



SUPPLEMENTAL FIGURE 3 Analysis of CD4-positive cells in cecum and spleen

(A) CD4 cells were visualized in the cecum with immunohistochemical staining. Slides were prepared by incubating sections with rabbit monoclonal anti-mouse CD4 antibody (Abcam), and CD4 was visualized with HRP-conjugated anti-rabbit antibody and 3,3'-diaminobenzidine. Slides were scanned on an Aperio ScanScope AT (Leica). Images were viewed using Aperio ImageScope software (Leica) and analyzed using Tissue Studio image analysis software (Definiens). The number of cells staining positive for CD4 from an entire 4 µm Swiss roll section of cecum was divided by the total number of cells. Two sections, separated by 100 µm, were cut and quantified per cecum; each point represents the average percent of CD4+ T cells in the colon from one mouse (n=8 mice). (B) Flow cytometric analysis of CD45+CD4+ cells from spleens of control and DSS-treated mice (n=11). ns: not significant.



SUPPLEMENTAL FIGURE 4 CT contrast agent-assisted delineation of intestines

Oral and intrarectal CT contrast, administered prior to scanning, aided in visualizing the folds of the intestines. (A, B) Example CT images of mice treated with no contrast or with both oral and intrarectal CT contrast agent. (A) 25 mm coronal MIP, (B) 25 mm sagittal MIP. (C) Rendering of a three-dimensional isocontour ROI drawn around the entire gut based on CT intensity, including colon, cecum, small intestine, and portion of stomach. The coronal view is displayed.

SUPPLEMENTAL TABLE 1: *Ex vivo* biodistribution, % injected dose/gram

Percent injected dose per gram (%ID/g)

	Control			DSS		
	Mean	SD	n	Mean	SD	n
Blood	0.6	0.1	8	0.5	0.2	8
ILN	126.4	68.0	6	108.5	65.3	7
ALN	72.7	33.2	7	80.9	69.3	7
Spleen	123.6	18.2	8	106.1	47.4	8
Thymus	3.4	1.9	8	6.0	5.1	8
Liver	11.2	3.0	8	14.9	5.2	8
Kidney	99.6	28.8	8	114.1	36.4	8
Heart	1.6	0.5	8	2.3	1.0	8
Lung	3.2	1.9	8	2.8	0.7	8
Muscle	0.5	0.2	8	0.6	0.3	8
Femur	13.7	4.5	8	9.0	2.2	8
Tail	8.8	7.3	8	10.2	8.7	8
Carcass	1.4	0.3	8	1.5	0.2	8
Stomach	0.9	0.1	8	1.4	0.7	8
Small Int	5.9	1.5	8	5.1	1.6	8
Cecum	4.3	2.1	6	13.5	9.6	8
Colon	3.1	1.0	6	9.1	6.0	8
MLN	56.9	24.3	8	61.7	56.0	8

Activity present in blood and organs from DSS-treated mice was compared to those from control mice 26 h post-injection of ^{89}Zr-malDFO-GK1.5 cDb. Abbreviations: axillary LN (ALN), inguinal LN (ILN), mesenteric LN (MLN). No significant differences were found between the groups in any organ.