Supporting Information

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SI Methods

Oligos Used for RT-PCR.

NOX1f: 5′ GGC ACA GGC CAA TGT TGA CCC A 3′

NOX1r: 5′ AGG CTC ACA GAC CCT GCG CT 3′

NOX2f: 5′ TCA GGG GTT CCA GTG CGT GCT 3′

NOX2r: 5′ GCC AAC AGG GTC ACA GCC AGG 3′

NOX3f: 5′ ATG CAA CCA TCC ACA TCG TG 3′

NOX3r: 5′ TCG AAC AAT CCG ACC CGT CCC A 3′

NOX4f: 5′ TCT GGC TCT CCA TGA ATG TC 3′

NOX4r: 5′ AGC CAC ATG CAC GCC TGA GA 3′

NOX5f: 5′ AGT GGG CAG CGC TGA TGG TC 3′

NOX5r: 5′ CGG TCG CAT GGC AGA GTG CT 3′

p22phoxf: 5′ TCC AGT GCG TGC TGC TCA ACA A 3′

p22phoxr: 5′ TCT GCG GTC TGC CCA CGT AC 3′

GAPDHf: 5′ CGC GGG GCT CTC CAG AAC ATC 3′

GAPDHr: 5′ TGG TGG TCC AGG GGT CTT ACT CC 3′

Staining and Scoring of Colonic Explants. Tissue slated for H&E staining was fixed with 10% neutral buffered formalin for 48 h, washed with PBS, and mounted in cassettes. Blocks were dehydrated and embedded in paraffin, and sections were cut and stained with H&E by the Translational Pathology Shared Resource Core. The sections were coded and evaluated in a blinded fashion using a semiquantitative injury scale: 0, no damage; 1, superficial damage (damage limited to intact surface epithelial cells); 2, loss of up to 50% of surface epithelial cells with gland length, crypts intact; and 3, loss of >50% of surface epithelial cells and damage in >50% of gland length. An injury score was calculated as the mean score for sections evaluated independently by five individuals.

For keratin staining, antigen retrieval was achieved by deparaffinization with Histo-clear (National Diagnostics), and antigens were retrieved by citric acid. The sections were blocked with Serum-Free Protein Block (Dako), stained with a rabbit anti-pan cytokeratin antibody (sc-15367; Santa Cruz Biotechnology), and diluted in Dako antigen diluent with background reducing components overnight at 4 °C. The sections were washed with PBS and incubated for 1 h at room temperature with Alexa Fluor 546 donkey anti-rabbit antibody (A10040; Life Technologies). The sections were washed with PBS and mounted with Prolong Gold with DAPI (P36931; Life Technologies). H&E- and pan-cytokeratin–stained sections were imaged with the Ariol SL-50 system (Applied Imaging) at the Epithelial Biology Center Imaging Core.