

Table S1. Composition of the diet used in the animal experiment (the diet composition was modified from a standard AIN-93G diet. The ingredients were purchased from Dyets Inc., except corn oil was from a local market in Hadley, MA)

Ingredients	grams/kg
Casein	200
L-Cystine	3
Sucrose	100
Dyetrose	132
Cornstarch	397.5
Cellulose	50
Mineral mix #210025	35
Vitamin mix #310025	10
Choline Bitartrate	2.5
Corn oil	100

Table S2. Sequences of primers used in qRT-PCR

Gene	Forward	Reverse
Mouse <i>Gapdh</i>	AGGTCGGTGTGAACGGATTTG	TGTAGACCATGTAGTTGAGGTCA
Mouse <i>Tnf-α</i>	CCCTCACACTCAGATCATCTTCT	GCTACGACGTGGGCTACAG
Mouse <i>Il-6</i>	TAGTCCTTCCCTACCCCAATTTCC	TTGGTCCTTAGCCACTCCTTC
Mouse <i>Ifn-γ</i>	ATGAACGCTACACACTGCATC	CCATCCTTTTGCCAGTTCCTC
Mouse <i>Jun</i>	CCTTCTACGACGATGCCCTC	GGTTCAAGGTCATGCTCTGTTT
Mouse <i>Il-10</i>	GCTCTTACTGACTGGCATGAG	CGCAGCTCTAGGAGCATGTG
Mouse <i>Il-1β</i>	GCAACTGTTCTGAACTCAACT	ATCTTTTGGGGTCCGTCAACT
Mouse <i>Mcp-1</i>	TTAAAAACCTGGATCGGAACCAA	GCATTAGCTTCAGATTTACGGGT
Mouse <i>Mki67</i>	ATCATTGACCGCTCCTTTAGGT	GCTCGCCTTGATGGTTCCT
Mouse <i>Pcna</i>	TTTGAGGCACGCCTGATCC	GGAGACGTGAGACGAGTCCAT
Mouse <i>Ccnd-1</i>	GCGTACCCTGACACCAATCTC	CTCCTCTTCGCACTTCTGCTC
Mouse <i>Occludin</i>	ACGGACCCTGACCACTATGA	TCAGCAGCAGCCATGTACTC
Mouse <i>Vegf</i>	GCACATAGAGAGAATGAGCTTCC	CTCCGCTCTGAACAAGGCT
Mouse <i>Myc</i>	TGAAGTTCACGTTGAGGGG	AGAGCTCCTCGAGCTGTTTG
Mouse <i>Mpo</i>	GACATGCCACCGAATGACAA	CAGGCAACCAGCGTACAAAG
Mouse <i>Gsta1</i>	GAGCCATTCTCAACTACATCG	TGCCCAATCATTTCAGTCAG
Mouse <i>Gstm1</i>	GGTGACGCTCCCGACTT	TTGCTCTGGGTGATCTTGT
Mouse <i>Cat</i>	TGGCACACTTTGACAGAGAGC	CCTTTGCCTTGGAGTATCTGG
Mouse <i>Sod1</i>	AACCAGTTGTGTTGTCAGGAC	CCACCATGTTTCTTAGAGTGAGG
Mouse <i>Gsr</i>	GACACCTCTTCTTCGACTACC	CACATCCAACATTACGCAAG
Mouse <i>Homx1</i>	AAGCCGAGAATGCTGAGTTCA	GCCGTGTAGATATGGTACAAGGA
Human <i>IL-6</i>	GCACTGGCAGAAAACAACCT	CAGGGGTGGTTATTGCATCT
Human <i>TNF-α</i>	CCGTCTCCTACCAGACCAAGG	CTGGAAGACCCCTCCAGATAG
Human <i>IFN-γ</i>	TCGGTAACTGACTTGAATGTCCA	TCGCTTCCCTGTTTTAGCTGC
Human <i>GAPDH</i>	ACAACCTTTGGTATCGTGGAAGG	GCCATCACGCCACAGTTTC
16S rRNA	CCTACGGGTGGCTGCAG	GACTACTAGGGTATCTAATCC

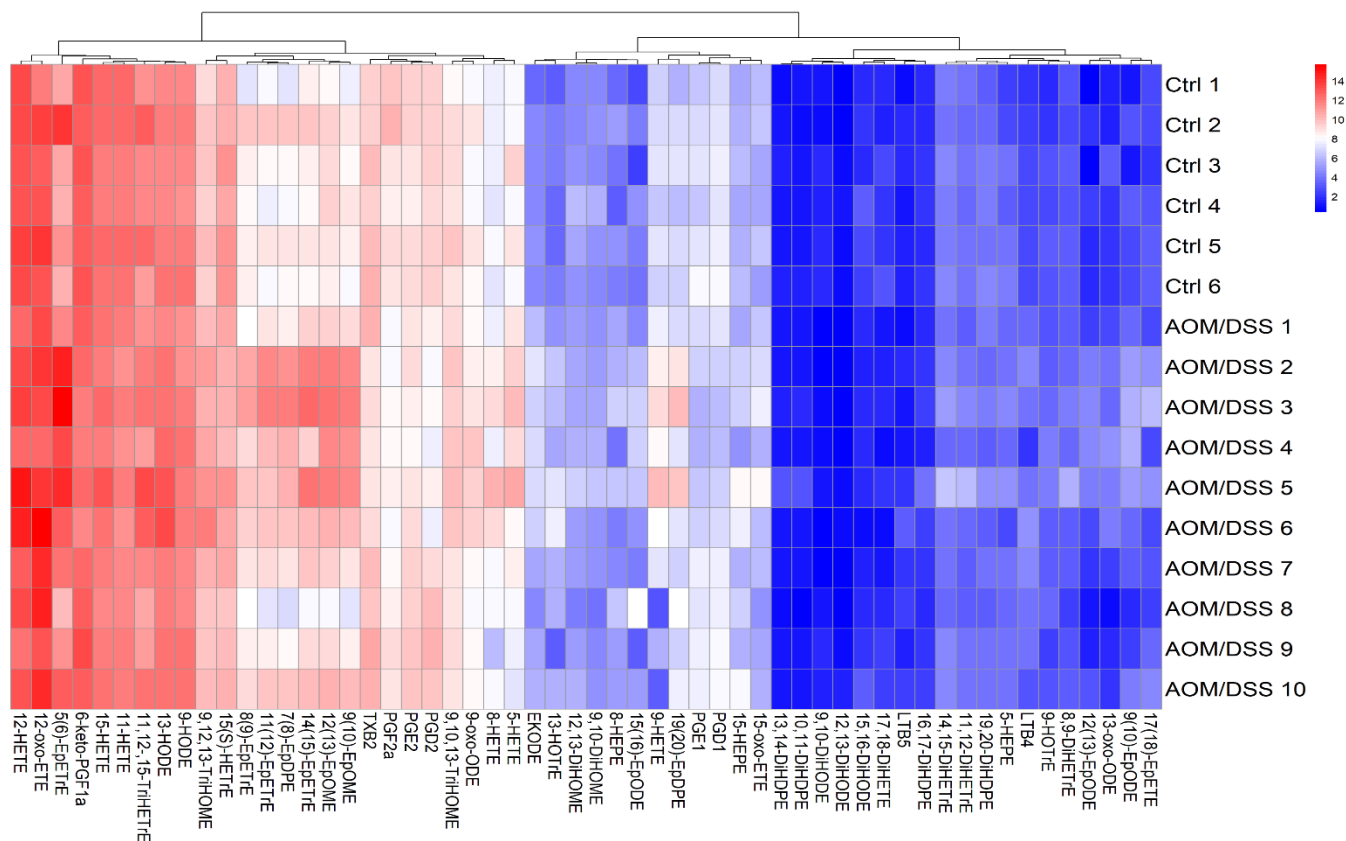


Figure S1. Heat-map analysis of lipids in the colon of AOM/DSS-induced CRC mice (n = 10 mice per group) vs. control healthy mice (n = 6 mice per group).

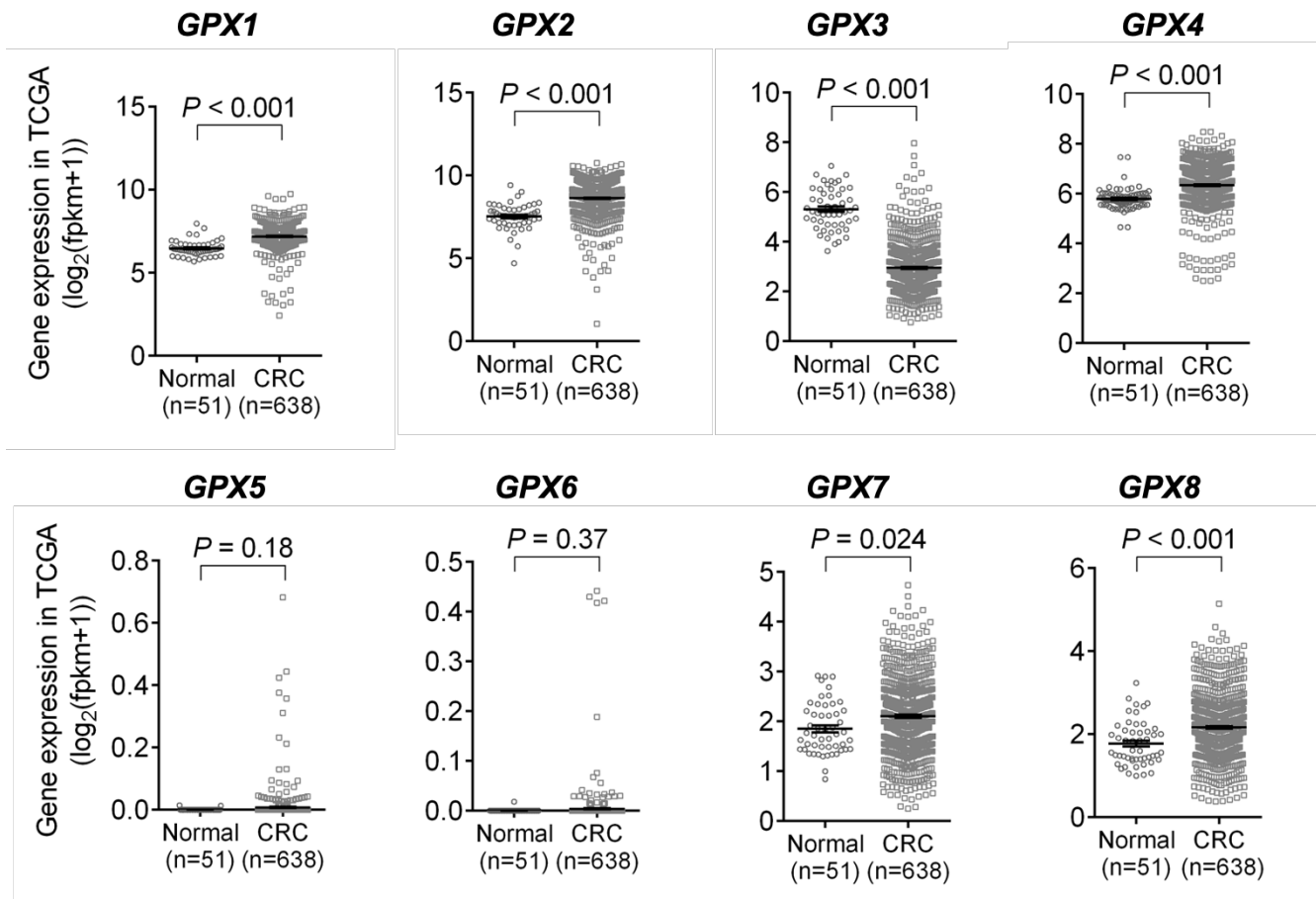


Figure S2. Expression of GPX in the TCGA database. The results are mean \pm SEM. The statistical significance of two groups was determined using Student's t test or Wilcoxon-Mann-Whitney test.

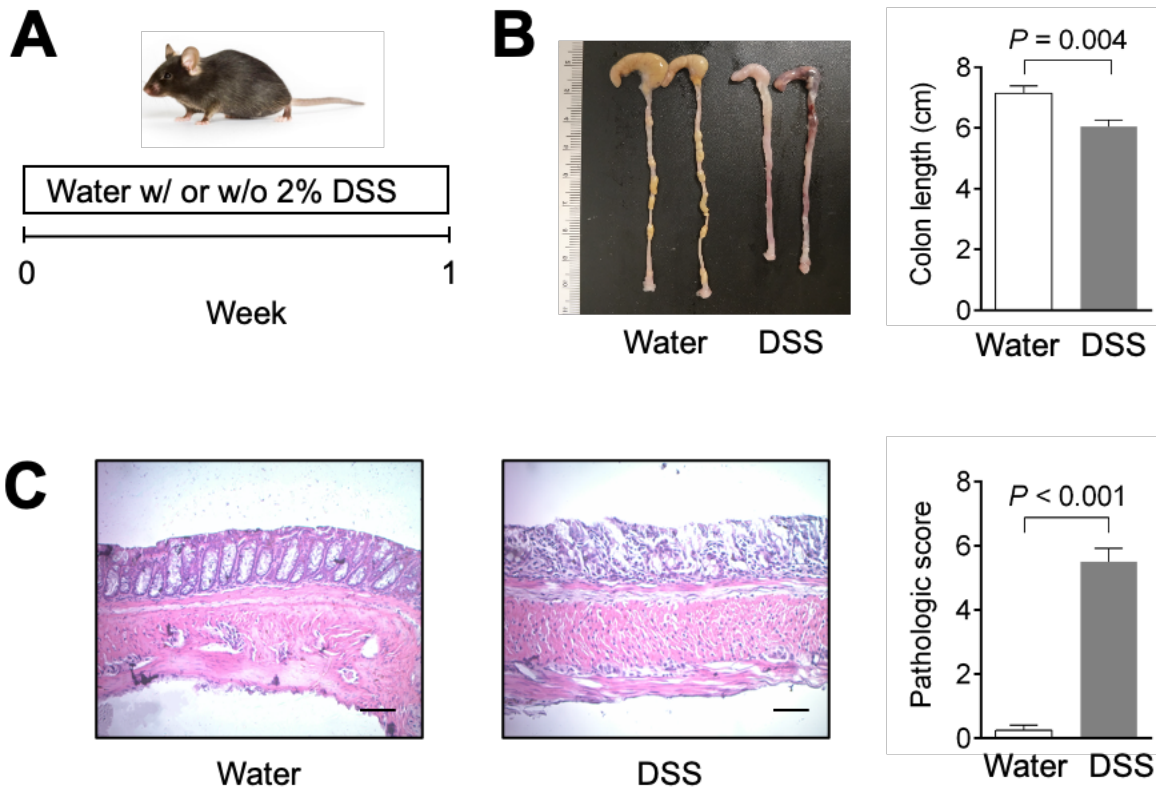


Figure S3. Compared with the mice treated with normal drinking water, the mice treated with DSS developed acute colitis. **A**, Scheme of animal experiment. **B**, Colon length (n = 8 mice per group). **C**, H&E staining of colon (n = 8 mice per group, scale bars: 50 μ m). The results are mean \pm SEM.

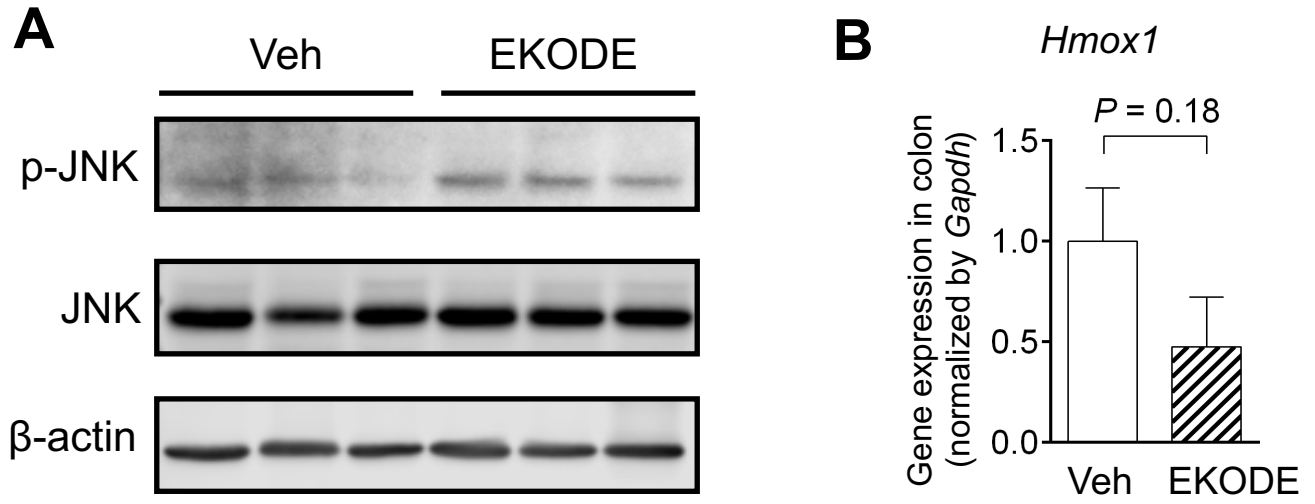


Figure S4. Effects of EKODE on (A) colonic expression of phosphorylated JNK (n = 3 per group), and (B) gene expression of *Hmox1* in colon (n = 6-7 per group), in the DSS-induced colitis model in mice. The results are mean \pm SEM.

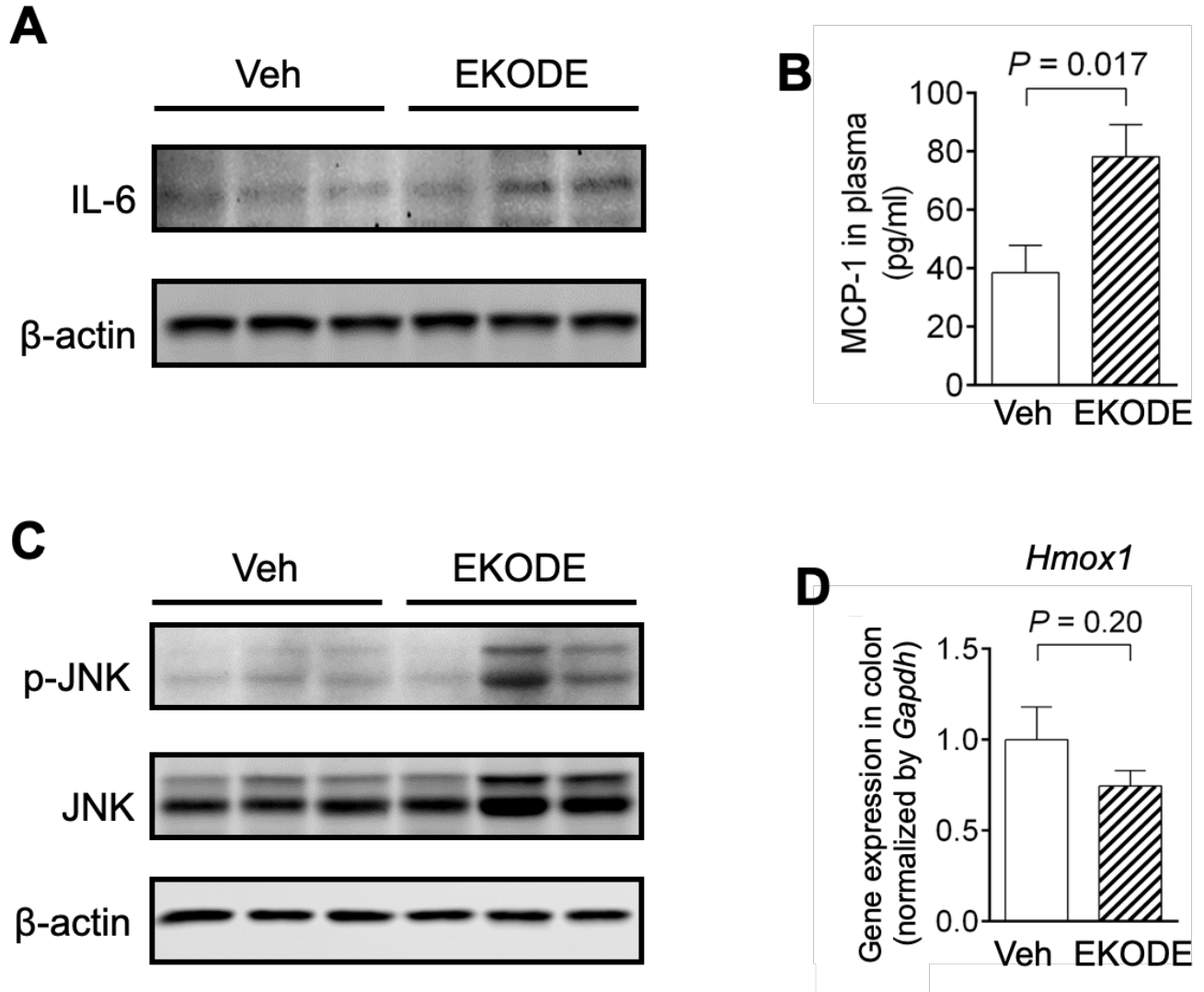


Figure S5. Effects of EKODE on (A) colonic expression of IL-6 (n = 3 per group), (B) plasma concentration of MCP-1 (n = 7-8 per group), (C) colonic expression of phosphorylated JNK (n = 3 per group), and (D) gene expression of *Hmox1* in colon (n = 7-8 per group), in the AOM/DSS-induced CRC model in mice. The results are mean \pm SEM.

Hmox1 expression in
RAW 264.7 cells

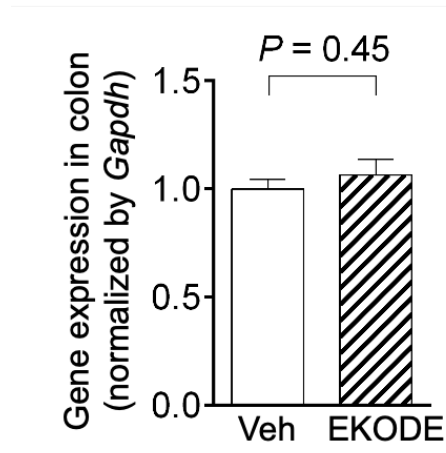


Figure S6. Effects of 24-h treatment with 300 nM EKODE on expression of *Hmox1* in RAW 264.7 cells (n = 6 per group).