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

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 in qRT-PCR

Gene	Forward primer	Reverse primer
Mouse *Gapdh*	AGGTCGGTGTGAACGGATTTG	TGTAGACCATGTAGTTGAGGTCA
Mouse *Tnf-α*	CCCTCACACTCAGATCATCTTCT	GCTACGACGTGGGCTACAG
Mouse *Il-1β*	GCAACTGTTCCTGAACTCAACT	ATCTTTTGGGGTCCGTCAACT
Mouse *Mcp-1*	TTAAAAACCTGGATCGGAACCAA	GCATTAGCTTCAGATTTACGGGT
Mouse *Il-6*	TAGTCCTTCCTACCCCAATTTCC	TTGGTCCTTAGCCACTCCTTC
Mouse *Inf-γ*	ATGAACGCTACACACTGCATC	CCATCCTTTTGCCAGTTCCTC
Mouse *Axin 2*	TGCATCTCTCTCTGGAGCTG	ACTGACCGACGATTCCATGT
Mouse *Cox-2*	TTCAACACACTCTATCACTGGC	AGAAGCGTTTGCGGTACTCAT
Mouse *C-myc*	ATGCCCCTCAACGTGAACTTC	GTCGCAGATGAAATAGGGCTG
Mouse *Pla2g4a*	CAGCACATTATAGTGGAACACCA	AGTGTCCAGCATATCGCCAAA
Mouse *Cyp2c37*	AATGGAATGGGCCTTGCA	GCAACGTGCTTCTTCTTGAACG
Mouse *Cyp2c38*	CACGGCCCATTGTTGTATTGC	TGAGTGTGAAACGTCTTGTCTCT
Mouse *Cyp2c39*	GAGGAAGCATTCCAATGGTAGAA	TGTGAAGCGCCTAATCTCTTTC
Mouse *Cyp2c44*	GCTGCCCTATACAGATGCCG	GTGACGCTAAGAGTTGCCCA
Mouse *Cyp2c40*	GGCTCACAGCCTATTGTGGTA	TCAAAAACCGGAATCCTTCCTC
Mouse *Cyp2c50*	ACTGTGGTGTTGCATGGATATG	GAGAAGCGCCTTGTGTTTTTC
Mouse *Cyp2c54*	AGACAGAGCTATGAAAGAGGGAA	GTGAGAAGTGCCTCGTGTTTT
Mouse *Cyp2c55*	AATGATCTGGGGGTGATTTTCAG	GCGATCCTCGATGCTCCTC
Mouse *Cyp2c65*	ACAACCCAAAGACGGAGTTTAC	CTGTCCCAGCAGCAAACAGAT
Mouse *Cyp2c70*	AGTATGGCCCTGTGTTTACTGT	GCCTTGGCTGGTTCTACTGAG
Mouse *Cyp2j5*	AGCTGCTGTCACCTTCCTTTT	TGCGTCAAGTCCATCTGGAAC
Mouse *Cyp2j6*	TTAGCCACGATCTGGGCAG	CTGGGGGATAGTTCTTGGGG
Mouse *Cyp2j8*	GCTACTATAGGTTGCCTGGTG	CCCAAATGCAGATGTGACAC
Mouse *Cyp2j9*	TGGCTGATTTCCTCAAAAACCG	ACTGCTGAAGGGATAGGTGGG
Mouse *Cyp2j13*	AGCTGCTGTCACCTTCCTTTT	TGCGTCAAGTCCATCTGGAAC
Mouse *Ephx2*	GCGTTCGACCTTGACGGAG	TGTAGCTTTCATCCATGAGTGGT
Human *GAPDH*	ACAACTTTGGTATCGTGGAAGG	GCCATCACGCCACAGTTTC
Human *IL-6*	ACTCACCTCTTCAGAACGAATTG	CCATCTTTGGAAGGTTCAGGTTG
Human *MCP-1*	CAGCCAGATGCAATCAATGCC	TGGAATCCTGAACCCACTTCT
Human *CYP2C8*	CATTACTGACTTCCGTGCTACAT	CTCCTGCACAAATTCGTTTTCC
Human *CYP2C9*	GCCTGAAACCCATAGTGGTG	GGGGCTGCTCAAAATCTTGATG
Human *CYP2C19*	GGAAAACGGATTTGTGTGGGA	GGTCCTTTGGGTCAATCAGAGA
Human *CYP2J2*	TGGCTTGCCCTTAATCAAAGAA	GGCCACTTGACATAATCAATCCA

Table S3. Concentrations of lipid mediators in the plasma of control mice (not treated with AOM/ DSS) and colon cancer mice (treated with AOM/DSS)

	Control		Colon cancer mice		*P* value
	Mean (nM)	SEM	Mean (nM)	SEM	
6-keto-$PGF_{1\alpha}$	0.87	0.39	2.13	1.58	0.733
TXB_2	1.43	0.90	6.45	3.99	0.088
9,12,13-TriHOME	10.32	1.63	10.53	1.93	0.807
9,10,13-TriHOME	5.41	0.87	4.79	0.53	0.522
LXA_4	0.24	0.04	0.57	0.14	0.188
LTB_5	0.21	0.03	0.23	0.03	0.464
15,16-DiHODE	0.60	0.23	0.49	0.06	0.262
9,10-DiHODE	0.13	0.06	0.14	0.01	0.157
12,13-DiHODE	0.10	0.02	0.15	0.02	**0.010**
17,18-DiHETE	0.15	0.05	0.12	0.01	0.884
12,13-DiHOME	7.04	1.80	12.19	1.02	**0.013**
9,10-DiHOME	3.41	0.83	4.64	0.29	**0.036**
19,20-DiHDPE	1.04	0.28	1.17	0.07	0.071
14,15-DHET	0.43	0.10	0.91	0.09	**0.004**
16,17-DiHDPE	0.19	0.05	0.26	0.02	**0.036**
11,12-DHET	0.27	0.06	0.46	0.05	**0.039**
13,14-DiHDPE	0.07	0.02	0.08	0.01	0.088
9-HOTrE	0.25	0.04	0.37	0.03	**0.042**
8,9-DHET	0.57	0.08	0.82	0.12	0.127
EKODE	3.69	0.46	4.49	0.58	0.330
13-HOTrE	0.54	0.09	1.10	0.13	**0.007**
5,6-DHET	0.48	0.07	0.57	0.09	0.432
5-HEPE	0.15	0.02	0.24	0.03	**0.043**
13-HODE	33.45	4.19	89.19	15.90	**0.012**
9-HODE	10.52	1.36	20.76	2.99	**0.016**
15,16-EpODE	1.20	0.29	1.73	0.25	**0.036**
15-HETE	1.92	0.67	7.04	2.11	0.088
11-HETE	1.18	0.49	4.27	1.47	0.088
15-oxo-ETE	0.44	0.12	1.20	0.33	0.088
9-oxo-ODE	6.85	0.72	11.87	0.77	**<0.001**
8-HETE	1.93	0.38	6.51	1.10	**0.004**
12-HETE	156.75	44.07	673.49	180.68	0.057
9-HETE	0.65	0.15	1.69	0.46	0.188
15(S)-HETrE	0.88	0.17	3.03	0.74	0.071
5-HETE	2.42	0.36	5.02	0.95	**0.045**
19,20-EDP	1.11	0.09	1.73	0.12	**0.002**
12,13-EpOME	11.26	1.29	19.42	2.12	**0.010**
14,15-EET	2.03	0.20	4.01	0.69	**0.044**
9,10-EpOME	11.20	1.52	18.85	2.36	**0.027**
10,11-EDP	0.46	0.08	0.46	0.09	0.807
11,12-EET	3.00	0.35	5.81	1.06	**0.044**
8,9-EET	1.59	0.25	4.12	0.82	**0.021**

Table S4. Concentrations of lipid mediators in the colon of control mice (not treated with AOM/DSS) and colon cancer mice (treated with AOM/DSS)

	Control		Colon cancer mice		*P* value
	Mean (pmol/g)	SEM	Mean (pmol/g)	SEM	
6-keto-$PGF_{1\alpha}$	8335.52	350.19	6271.57	800.03	0.077
TXB_2	924.25	102.27	828.27	128.81	0.613
9,12,13-TriHOME	822.33	87.85	1621.54	282.56	**0.011**
9,10,13-TriHOME	510.56	72.14	693.79	70.45	0.109
$PGF_{2\alpha}$	670.28	132.89	339.65	37.99	**0.011**
PGE_2	554.31	51.31	579.48	69.70	0.803
PGE_1	140.92	22.05	125.93	18.10	0.613
PGD_1	177.81	17.86	144.74	20.69	0.293
PGD_2	645.93	32.69	539.28	119.67	0.512
11,12-,15-TriHETrE	3820.82	725.12	4154.29	816.97	0.871
LTB_5	1.72	0.24	3.13	0.77	0.303
15,16-DiHODE	4.24	0.99	2.71	0.64	**0.026**
9,10-DiHODE	1.83	0.26	0.94	0.22	**0.022**
12,13-DiHODE	0.76	0.10	0.71	0.15	0.303
17,18-DiHETE	4.01	0.82	2.23	0.42	**0.049**
LTB_4	4.96	0.47	15.17	2.54	**0.008**
12,13-DiHOME	34.69	7.69	45.39	7.72	0.255
9,10-DiHOME	29.46	5.41	36.15	6.20	0.303
19,20-DiHDPE	15.03	1.79	13.88	1.98	0.416
14,15-DHET	18.01	1.07	24.91	6.93	0.871
16,17-DiHDPE	2.89	0.26	4.21	1.06	0.416
11,12-DHET	13.76	0.67	17.98	5.51	0.416
13,14-DiHDPE	1.36	0.16	1.68	0.52	0.704
9-HOTrE	5.67	1.00	10.21	1.29	**0.028**
10,11-DiHDPE	1.28	0.13	1.82	0.63	0.871
8,9-DHET	7.64	0.52	14.16	4.55	0.175
EKODE	20.45	1.93	84.38	13.95	**0.002**
13-HOTrE	13.82	1.74	75.94	19.10	**0.008**
15-HEPE	54.79	3.85	121.90	29.33	0.175
8-HEPE	18.27	4.07	50.40	9.74	**0.028**
5-HEPE	11.20	2.37	14.17	1.91	0.350
13-HODE	3563.31	255.07	5532.43	727.40	**0.015**
9-HODE	3372.89	260.47	3749.40	276.83	0.377
15,16-EpODE	14.86	3.84	52.15	12.10	**0.029**
15-HETE	5217.22	543.94	4609.66	511.43	0.303
9,10-EpODE	4.58	1.09	22.63	6.13	**0.026**
17,18-EEQ	6.47	0.91	17.77	5.63	0.416
11-HETE	4845.17	428.01	3232.85	200.60	**0.002**
12,13-EpODE	2.00	0.53	10.30	2.83	**0.034**
13-oxo-ODE	3.65	1.11	9.84	2.64	0.143

15-oxo-ETE	59.31	8.73	100.77	25.70	0.416
9-oxo-ODE	307.89	39.09	440.82	64.41	0.159
8-HETE	183.90	12.81	407.16	117.32	**0.045**
12-HETE	11084.12	784.11	12416.07	2663.98	0.625
9-HETE	116.06	11.66	308.53	118.20	0.316
15(S)-HETrE	2051.03	247.62	1441.57	127.86	**0.029**
12-oxo-ETE	10047.54	1842.08	19717.65	4449.88	0.058
5-HETE	336.08	77.66	561.10	148.39	0.416
19,20-EDP	102.62	14.02	337.47	119.32	**0.020**
12,13-EpOME	523.82	69.34	2099.79	552.14	**0.034**
14,15-EET	447.04	99.99	1989.40	672.04	**0.034**
9,10-EpOME	334.71	49.68	1661.73	459.87	**0.034**
11,12-EET	365.35	97.88	1239.82	407.86	**0.045**
7,8-EDP	384.74	99.66	1170.47	343.65	**0.047**
8,9-EET	396.24	94.91	894.32	206.10	**0.029**
5.6-EET	4438.67	2808.60	13614.77	4634.84	0.058

Table S5. Concentrations of lipid mediators in the colon of AOM/DSS-treated *Cyp2c*$^{+/+}$ and *Cyp2c*$^{+/-}$ mice.

	***Cyp2c*$^{+/+}$ mice**		***Cyp2c*$^{+/-}$ mice**		***P* value**
	Mean (pmol/g)	**SEM**	**Mean (pmol/g)**	**SEM**	
6-keto-PGF$_{1\alpha}$	4248.44	302.92	3370.13	385.10	**0.023**
PGE$_3$	32.60	6.75	21.63	2.51	0.436
9,12,13-TriHOME	307.56	45.04	213.42	32.65	**0.046**
9,10,13-TriHOME	157.60	23.81	111.88	14.34	0.089
PGF$_{2\alpha}$	180.07	18.26	89.98	17.02	**0.002**
PGD$_2$	634.66	106.98	714.59	84.49	0.312
LXA$_4$	17.13	1.77	9.48	1.09	**0.001**
15,16-DiHODE	23.61	3.46	11.26	1.74	**0.004**
8,15-DiHETE	4.44	0.62	4.13	0.58	0.977
9,10-DiHODE	3.97	0.62	1.63	0.23	**0.003**
12,13-DiHODE	4.03	0.61	1.58	0.31	**0.005**
17,18-DiHETE	28.03	2.91	18.89	1.37	**0.035**
LTB$_4$	5.32	1.88	1.38	0.39	0.237
14,15-DiHETE	7.53	0.66	4.08	0.52	**<0.001**
12,13-DiHOME	116.06	14.75	56.85	9.56	**0.004**
9,10-DiHOME	63.94	7.45	33.65	4.73	**0.002**
19,20-DiHDPE	41.28	4.04	33.73	2.71	0.089
14,15-DHET	11.84	1.07	7.26	0.67	**0.002**
16,17-DiHDPE	8.51	0.71	5.81	0.54	**0.006**
11,12-DHET	9.59	0.80	5.53	0.54	**<0.001**
13,14-DiHDPE	3.94	0.26	2.50	0.32	**0.002**
9-HOTrE	8.54	1.08	4.72	0.63	**0.006**
10,11-DiHDPE	5.25	0.42	3.11	0.37	**0.001**
8,9-DHET	8.01	0.71	4.49	0.55	**<0.001**
13-HOTrE	20.90	3.05	13.88	2.75	0.069
7,8-DiHDPE	4.72	0.45	3.81	0.32	0.117
15-HEPE	190.10	17.58	168.90	44.18	0.089
5,6-DHET	3.09	0.40	1.57	0.32	**0.006**
8-HEPE	607.49	85.26	317.84	119.60	**0.035**
5-HEPE	71.36	10.50	39.73	4.32	**0.009**
4,5-DiHDPE	9.24	0.79	9.77	1.00	0.683
13-HODE	1628.68	125.86	1025.86	204.27	**0.035**
9-HODE	1566.47	113.37	987.55	192.54	**0.030**
15,16-EpODE	200.62	56.50	59.77	19.94	**0.010**
15-HETE	1512.22	144.40	1087.85	198.35	**0.019**
9,10-EpODE	95.78	23.59	30.62	11.02	**0.012**
17,18-EEQ	192.00	38.17	68.58	21.63	**0.006**
11-HETE	1758.01	178.17	1297.66	243.20	**0.023**
12,13-EpODE	47.58	12.07	14.59	5.27	**0.010**
15-oxo-ETE	40.08	3.93	20.02	2.92	**<0.001**
9-oxo-ODE	193.24	34.97	78.08	20.73	**0.007**
14,15-EEQ	123.82	27.01	42.06	14.38	**0.007**
8-HETE	51.24	7.18	45.31	8.41	0.371
12-HETE	1769.14	293.53	2330.38	420.85	0.285

15(S)-HETrE	667.40	107.36	617.77	99.43	0.795
12-oxo-ETE	448.65	57.74	533.77	114.17	0.840
5-HETE	136.06	27.62	81.84	7.68	0.112
19,20-EDP	426.64	110.18	146.00	45.11	**0.007**
12,13-EpOME	1628.62	328.39	521.48	183.11	**0.012**
14,15-EET	831.24	252.66	215.60	70.10	**0.002**
9,10-EpOME	1410.31	264.33	429.75	151.54	**0.007**
16,17-EDP	211.37	43.34	71.68	23.07	**0.005**
13,14-EDP	185.77	31.90	65.88	20.14	**0.002**
5-oxo-ETE	498.00	52.45	292.68	67.26	**0.025**
10,11-EDP	307.20	61.57	111.47	32.69	**0.003**
11,12-EET	919.15	212.90	313.18	99.71	**0.004**
8,9-EET	456.60	103.06	153.39	46.45	**0.003**