Electronic Supplementary Material (ESI) for Food & Function.

Supplementary Information

Table S1 Composition of the experimental diets (%)

Ingredients (%)	Normal	Model	DHA-PL*	EPA-PL*	DHA-EE*	EPA-EE*
Corn Starch	46.57	46.57	46.57	46.57	46.57	46.57
Dextrin	15.50	15.50	15.50	15.50	15.50	15.50
Casein-Vitamin Free	14.00	14.00	14.00	14.00	14.00	14.00
Sucrose	10.00	10.00	10.00	10.00	10.00	10.00
Powdered Cellulose	5.00	5.00	5.00	5.00	5.00	5.00
Soybean Oil	4.00	4.00	2.00	2.00	3.39	3.35
AIN 93M mineral Mix	3.50	3.50	3.50	3.50	3.50	3.50
AIN 93 Vitamin Mix	1.00	1.00	1.00	1.00	1.00	1.00
Choline Bitartrate	0.25	0.25	0.25	0.25	0.25	0.25
L-Cystine	0.18	0.18	0.18	0.18	0.18	0.18
DHA-PL	-	-	2.00	-	-	-
EPA-PL	-	-	-	2.00	-	-
DHA-EE	-	-	-	-	0.61	-
EPA-EE	-	-	-	-	-	0.65

* The mass concentration of DHA or EPA in DHA-PL, EPA-PL, DHA-EE, EPA-EE were 269 mg/g, 255 mg/g, 889 mg/g, 789 mg/g, respectively.

Table S2 Primer sequences for RT-PCR amplification

Gene	Forward	Reverse
IFN-γ	CACTGCATCTTGGCTTTGCA	GCTGATGGCCTGATTGTCTTTC
TNF-α	GGCAGGTCTACTTTGGAGTCATTGC	ACATTCGAGGCTCCAGTGAATTCGG
IL-1β	ACCTGCTGGTGTGTGACGTT	TCGTTGCTTGGTTCTCCTTG
IL-6	AGCCAGAGTCCTTCAGAGAGAT	GCACTAGGTTTGCCGAGTAGAT
FFAR2	CCGCCCAAGGCTAAGTCAATA	CGCCAGGGTCAGATTAAGCA
Muc-2	CACACAGCGGCCTTTCTCAT	ACCCTCCTCCTACCACATTG
IL-10	GGCGCTGTCATCGATT	AGCTCTGTCTAGGTCC

Table S3 Primer sequences for fecal microbiota analysis

Primer	Sequence
PRBA338f	ACTCCTACGGGAGGCAGCAG
PRUN518r	ATTACCGCGGCTGCTGG
Bifidobacteria F	GGGATGCTGGTGTGGAAGAGA
Bifidobacteria R	TGCTCGCGTCCACTATCCAGT
Lactobacilli F	AGCAGTAGGGAATCTTCCA
Lactobacilli R	CACCGCTACACATGGAG
Clostridium coccoides F	CGGTACCTGACTAAGAAGC
Clostridium coccoides R	AGTTT(C/T)ATTCTTGCGAACG
Roseburia spp. F	GCGGTRCGGCAAGTCTGA
Roseburia spp. R	CCTCCGACACTCTAGTMCGAC
Enterococcus spp. F	CCCTTATTGTTAGTTGCCATCATT
Enterococcus spp. R	ACTCGTTGTACTTCCCATTGT
Prevotella spp. F	GGTGTCGGCTTAAGTGCCAT
Prevotella spp. R	CGGA(C/T)GTAAGGGCCGTGC
Bacteroides fragilis F	TGATTCCGCATGGTTTCATT
Bacteroides fragilis R	CGACCCATAGAGCCTTCATC
Enterobacteriaceae F	GTGCCAGCMGCCGCGGTAA
Enterobacteriaceae R	GCCTCAAGGGCACAACCTCCAAG

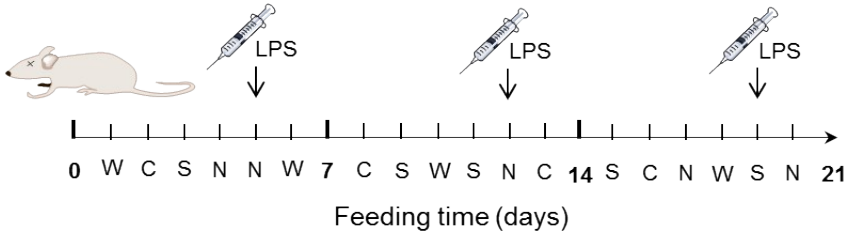

Fig. S1 Schematic illustration of the induction of chronic stress model. W-wet bedding; C-chronic immobilization for 2 h; S-swimming in 24°C water for 25 min; N- noises for 2 h.

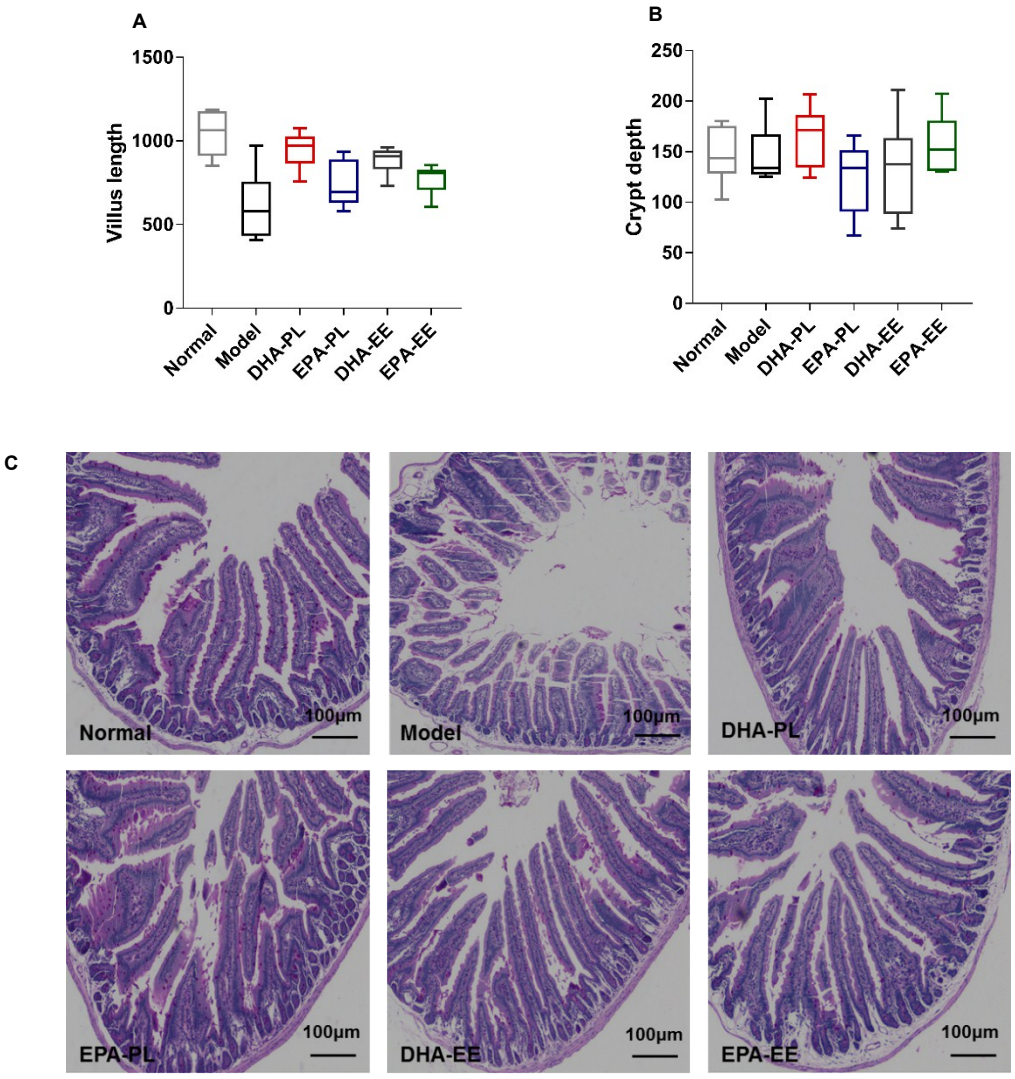

Fig. S2 DHA-PL and EPA-PL improved the histological morphology of small intestine in mice under chronic exercise. (A) Villus length, (B) Crypt depth, (C) Alcian Blue Staining of mucins. Data were mean ± SEM (n = 10).