

## Supplementary information

**Table S1.** Maintenance feed for Co60 irradiated experimental mice.

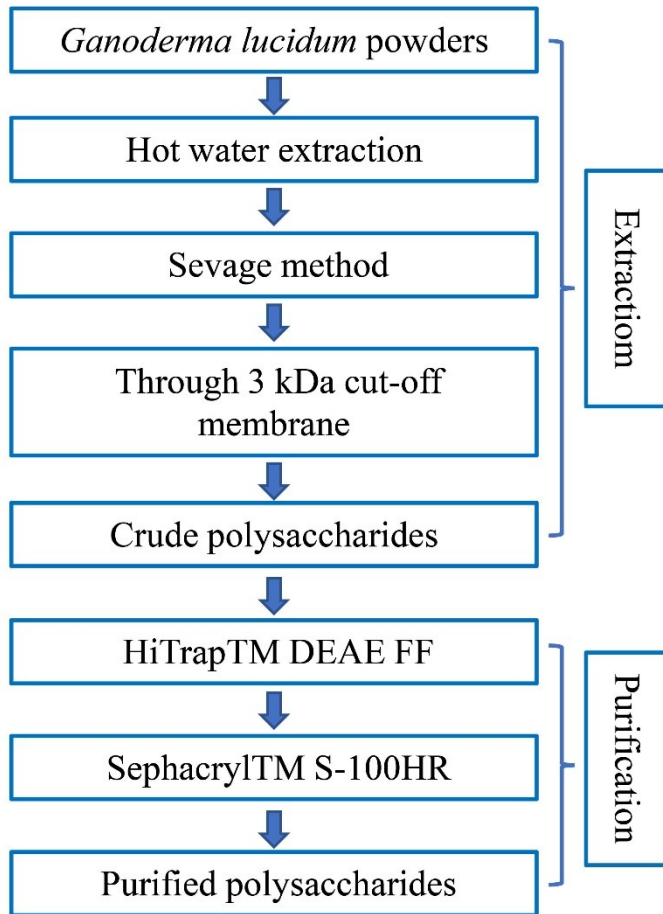
Raw material	Proportion
Corn	Cereal raw materials account for 80%
Middling	
Wheat	
Alfalfa grass	
Soybean meal	
Peruvian fish meal	Animal protein accounts for 10%
American Chicken Meal	
Animal premix <sup>①</sup>	
Gluten	Small additive 10%
Calcium hydrogen phosphate	
Stone powder	
Salad oil	
Feed grade sodium chloride	
Feed grade magnesium oxide	100%
Total	

**Table S2.** Primer sequences used for qPCR.

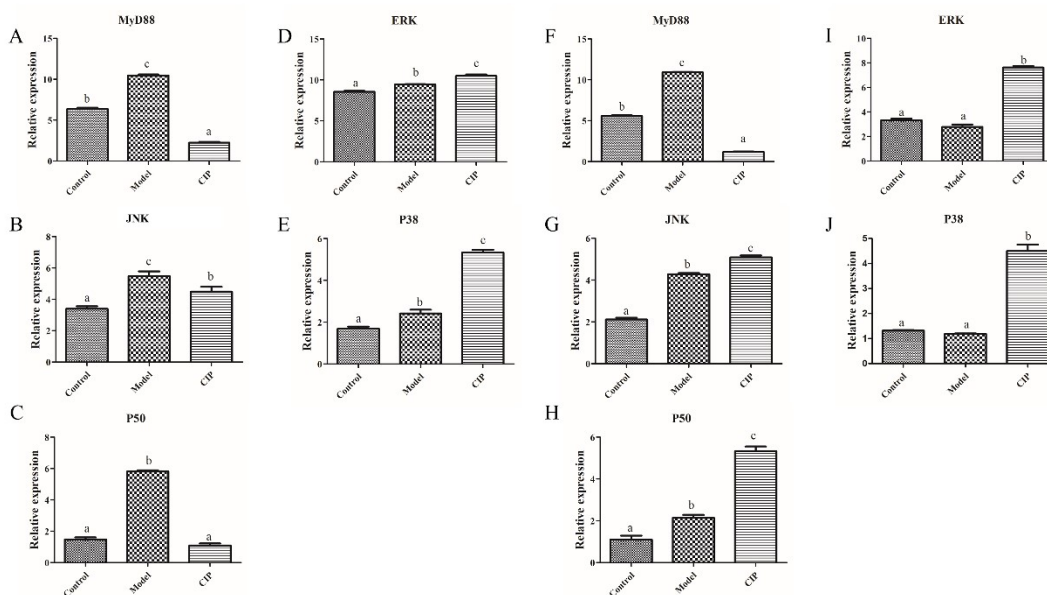
Gene	Sequence (5' to 3')	
	<i>Forward</i>	<i>Reverse</i>
GAPDH	GACAAGCTTCCCGTTCTCAG	GAGTCAACGGATTTGGTCGT
MYD88	CAGTGGTGGACAGTTGTGGAC	GAAAGCATCAAAGGTCTCAGGTG
JUK	CTCAGCATCCATCGTCTTCG	AGTCGGATCTGTGGACATTGA
P50	CTGGGTTCTGCTGCATTAATAA	GCACAACCTACAGTAGATGGCTAGAAA
ERK	GGTTGTTCCCAAATGCTGACT	CAACTTCAATCCTCTTGTGAGGG
P38	GGCTCGGCACACTGATGAT	TGGGGTTCCAACGAGTCTTAAA

**Table S3.** Death of mice injected with the strain *S. Typhimurium* in 9 days.

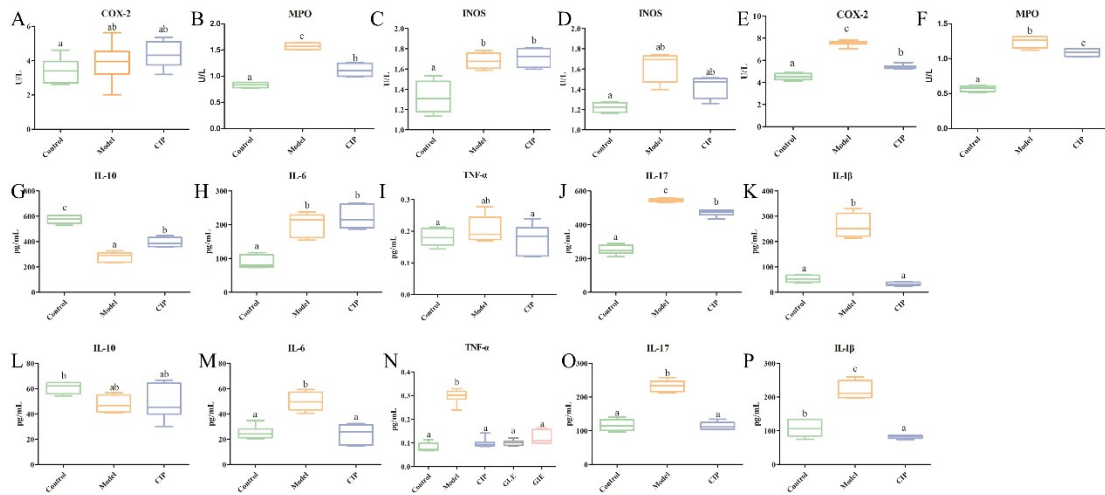
Group	Injection concentration (CFU/mL)	The number of mouse in experiment	The number of deaths									Cumulative mortality (%)
			1d	2d	3d	4d	5d	6d	7d	8d	9d	
<i>S.</i>	1×10 <sup>4</sup>	6	0	0	0	0	0	0	0	0	1	16.67%
<i>Typhimurium</i>	1×10 <sup>5</sup>	6	0	0	0	0	0	0	0	1	1	33.33%
	1×10 <sup>6</sup>	6	0	0	0	0	0	0	1	2	0	50%
	1×10 <sup>7</sup>	6	0	0	0	0	0	2	2	2	0	100%
	1×10 <sup>8</sup>	6	0	0	0	0	2	1	2	1	0	100%
	1×10 <sup>9</sup>	6	0	0	0	0	3	1	2	0	0	100%



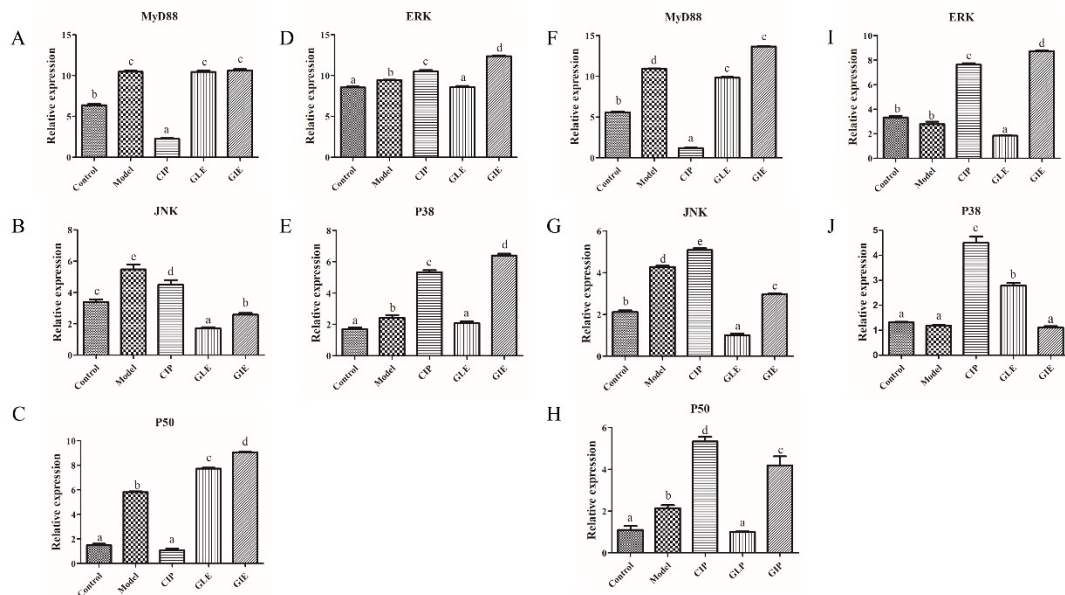
**Figure S1.** GLP preparation flow chart.



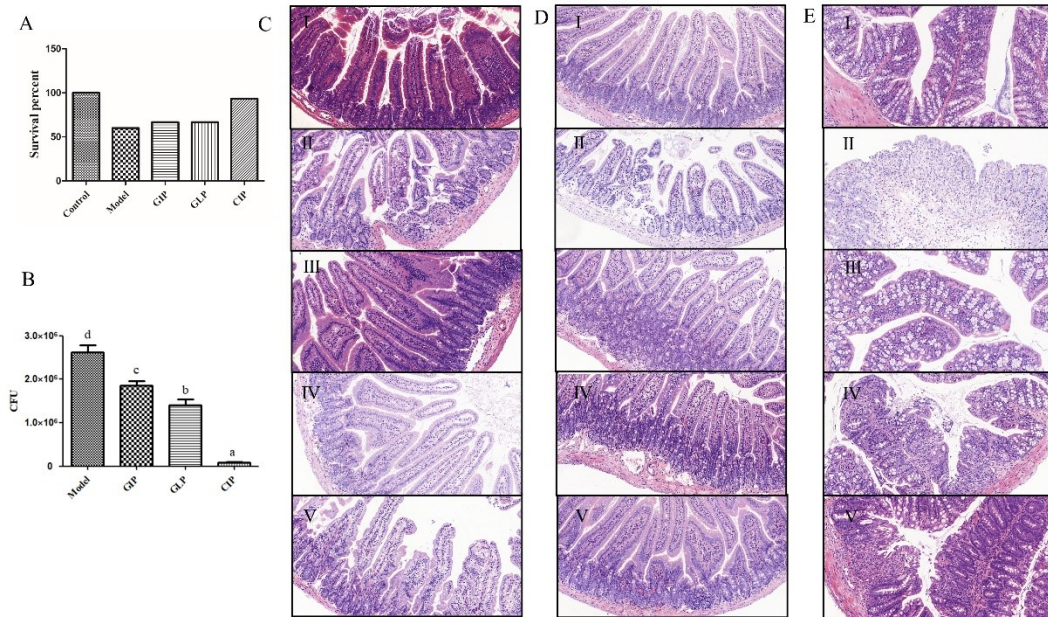
**Figure S2.** Inflammatory pathway-related factors in jejunum and colon of ciprofloxacin therapy in *S. Typhimurium* infection. (A) MyD88 in colon, (B) JNK in colon, (C) P50 in colon, (D) ERK in colon, (E) P38 in colon, (F) MyD88 in jejunum, (G) JNK in jejunum, (H) P50 in jejunum, (I) ERK in jejunum (J) P38 in jejunum.  $n = 4$  mice per group, bars with different letters were considered significant at  $p < 0.05$ .



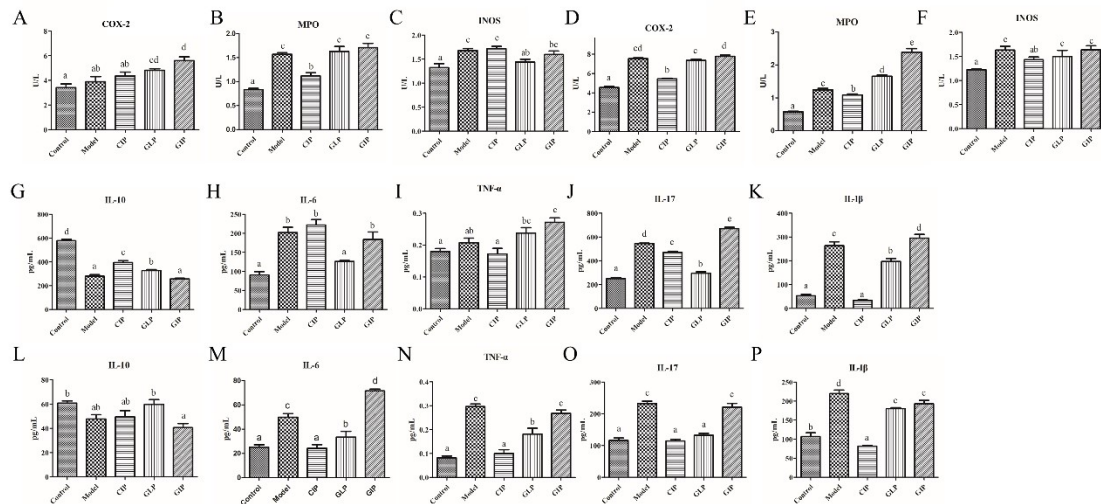
**Figure S3.** Inflammation level in jejunum and colon of ciprofloxacin therapy in *S. Typhimurium* infection. (A) COX-2 in colon, (B) MPO in colon, (C) INOS in colon, (D) INOS in jejunum, (E) COX-2 in jejunum, (F) MPO in jejunum, (G) IL-10 in colon, (H) IL-6 in colon, (I) TNF- $\alpha$  in colon, (J) IL-17 in colon, (K) IL-1 $\beta$  in colon, (L) IL-10 in jejunum, (M) IL-6 in jejunum, (N) TNF- $\alpha$  in jejunum, (O) IL-17 in jejunum, (P) IL-1 $\beta$  in jejunum.  $n = 6$  mice per group, bars with different letters were considered significant at  $p < 0.05$ .



**Figure S4.** Inflammatory pathway-related factors in jejunum and colon of GIE and GLE treatment in *S. Typhimurium* infection. (A) MyD88 in colon, (B) JNK in colon, (C) P50 in colon, (D) ERK in colon, (E) P38 in colon, (F) MyD88 in jejunum, (G) JNK in jejunum, (H) P50 in jejunum, (I) ERK in jejunum (J) P38 in jejunum.  $n = 4$  mice per group, bars with different letters were considered significant at  $p < 0.05$ .



**Figure S5.** Survival rate, translocation to liver and histological injury in duodenum, jejunum and colon of GIP and GLP treatment in *S. Typhimurium* infection. (A) Survival rate with *S. Typhimurium* infection. (B) Translocation to liver with *S. Typhimurium* infection. (C) Histological injury in duodenum, I, duodenum in control, II, duodenum in model, III, duodenum in ciprofloxacin, IV, duodenum in GIP, V, duodenum in GLP. (D) Histological injury in jejunum, I, jejunum in control, II, jejunum in model, III, jejunum in ciprofloxacin, IV, jejunum in GIP, V, jejunum in GLP. (E) Histological injury in colon, I, colon in control, II, colon in model, III, colon in ciprofloxacin, IV, colon in GIP, V, i colon in GLP. n = 6 mice per group, bars with different letters were considered significant at  $p < 0.05$ .



**Figure S6.** Inflammation level in colon and jejunum of GIP and GLP treatment in *S. Typhimurium* infection. (A) COX-2 in colon, (B) MPO in colon, (C) INOS in colon, (D) COX-2 in jejunum, (E) MPO in jejunum, (F) INOS in jejunum, (G) IL-10 in colon, (H) IL-6 in colon, (I) TNF- $\alpha$  in colon, (J) IL-17 in colon, (K) IL-1 $\beta$  in colon, (L) IL-10 in jejunum, (M) IL-6 in jejunum, (N) TNF- $\alpha$  in

jejunum, (O) IL-17 in jejunum, (P) IL-1 $\beta$  in jejunum. n = 6 mice per group, bars with different letters were considered significant at  $p < 0.05$ .