Supplementary figures

The gene expression of chemokines

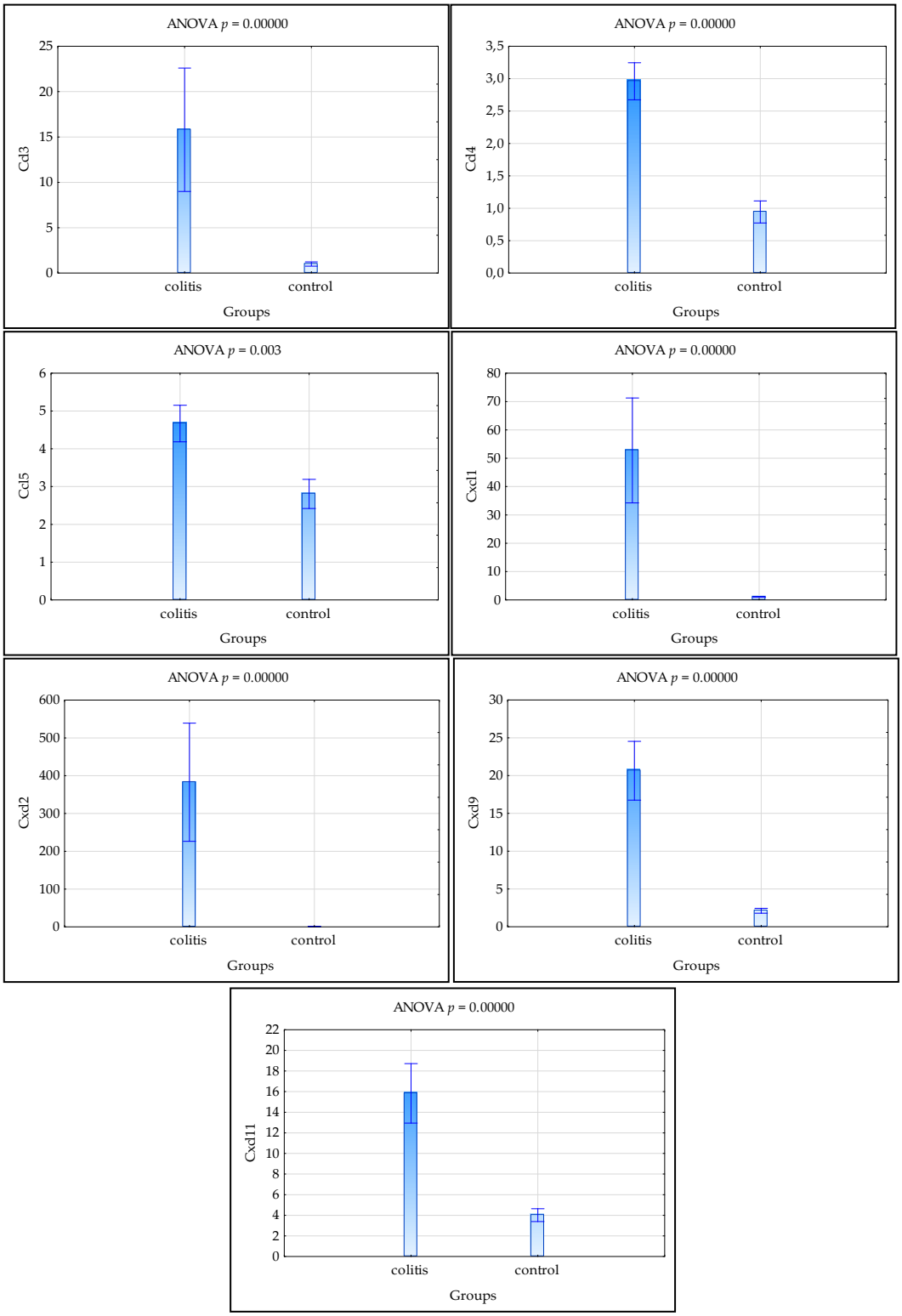

Figure S1. Changes of gene expression of selected chemokines (mean ± SE) by influence of inflammation. ANOVA analysis.

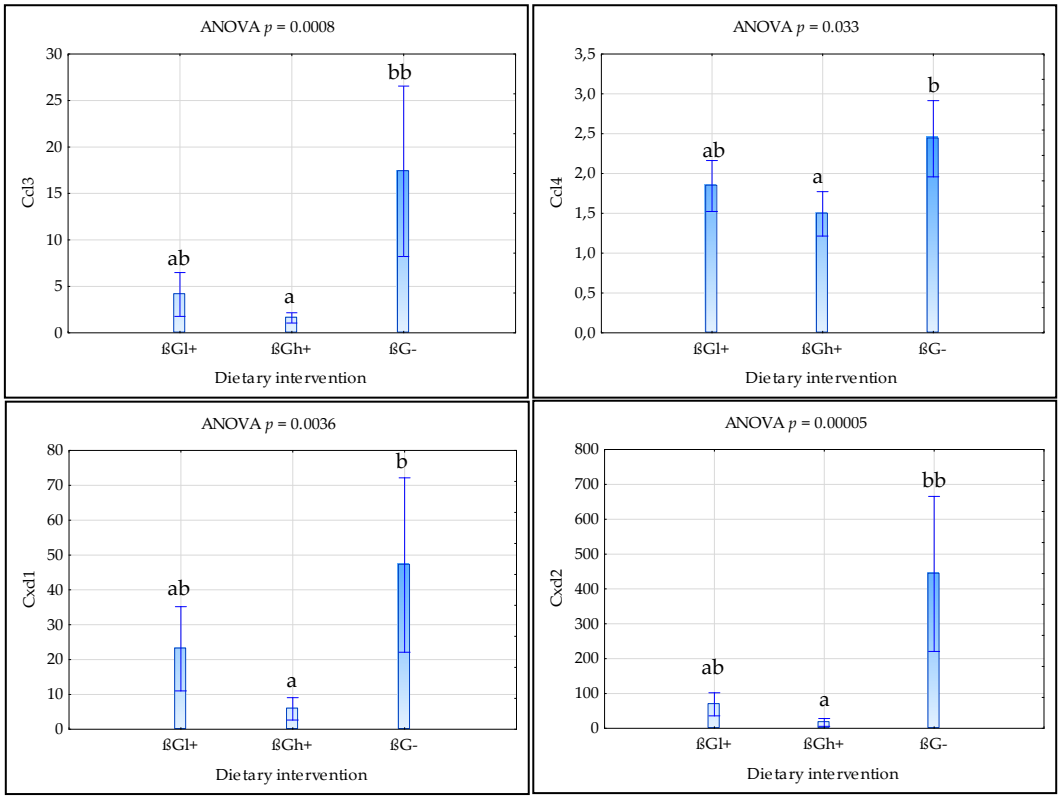

Figure S2. Changes of gene expression of selected chemokines (mean ± SE) by influence of dietary intervention. ANOVA analysis. [a,b] Different letters denote significant differences between dietary group according to the Tukey post-hoc test (a,b $p < 0.05$, a,bb $p < 0.01$).

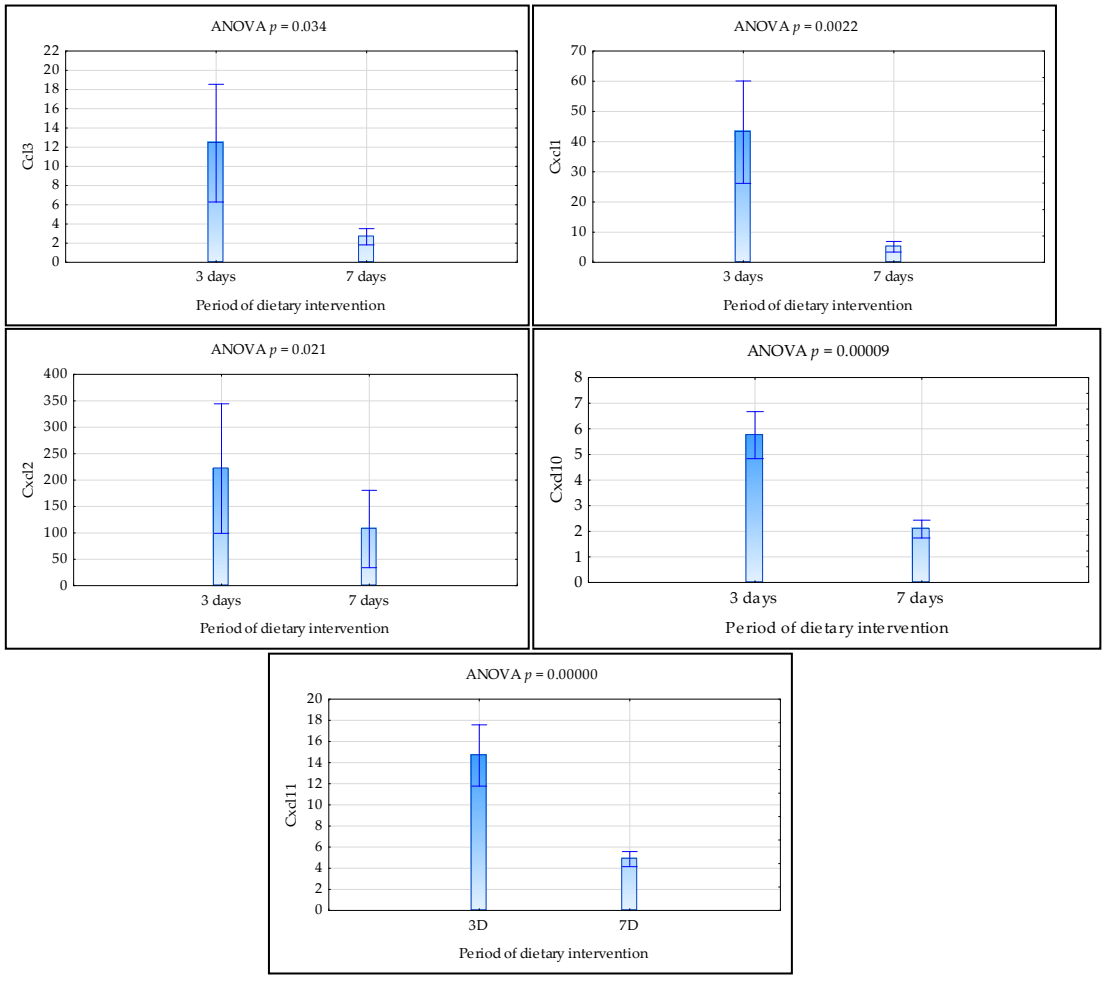

Figure S3. Changes of gene expression of selected chemokines (mean ± SE) by influence of the period of dietary intervention. ANOVA analysis.

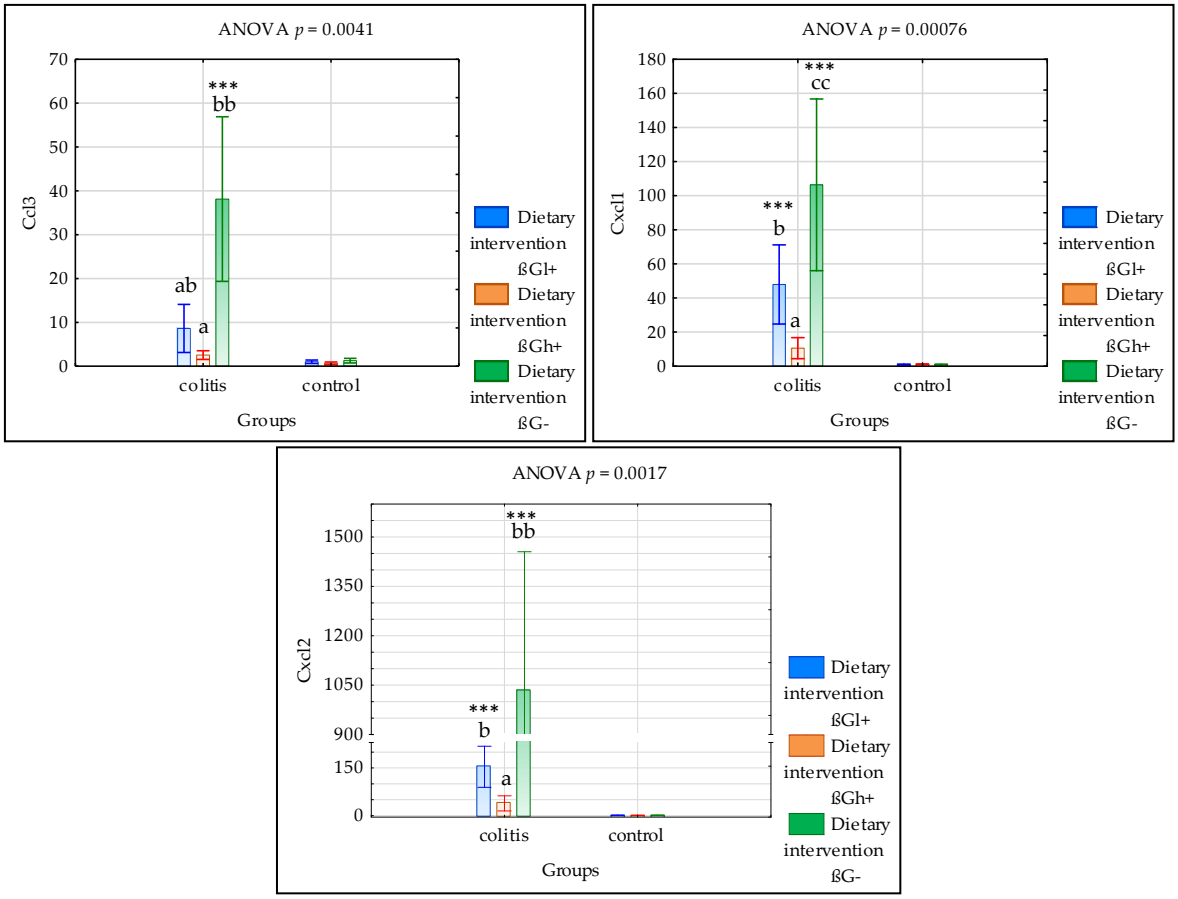

Figure S4. Changes of gene expression of selected chemokines (mean ± SE) by influence of interaction between the period of inflammation and dietary intervention. ANOVA analysis. [a,b] Different letters denote significant differences between dietary groups in the *colitis* group according to the Tukey post-hoc test (a,b $p < 0.05$, a,bb/cc $p < 0.001$). * Significantly different from control group (control βG-) according to the Tukey post-hoc test (*** $p < 0.001$).

The gene expression of chemokine receptors

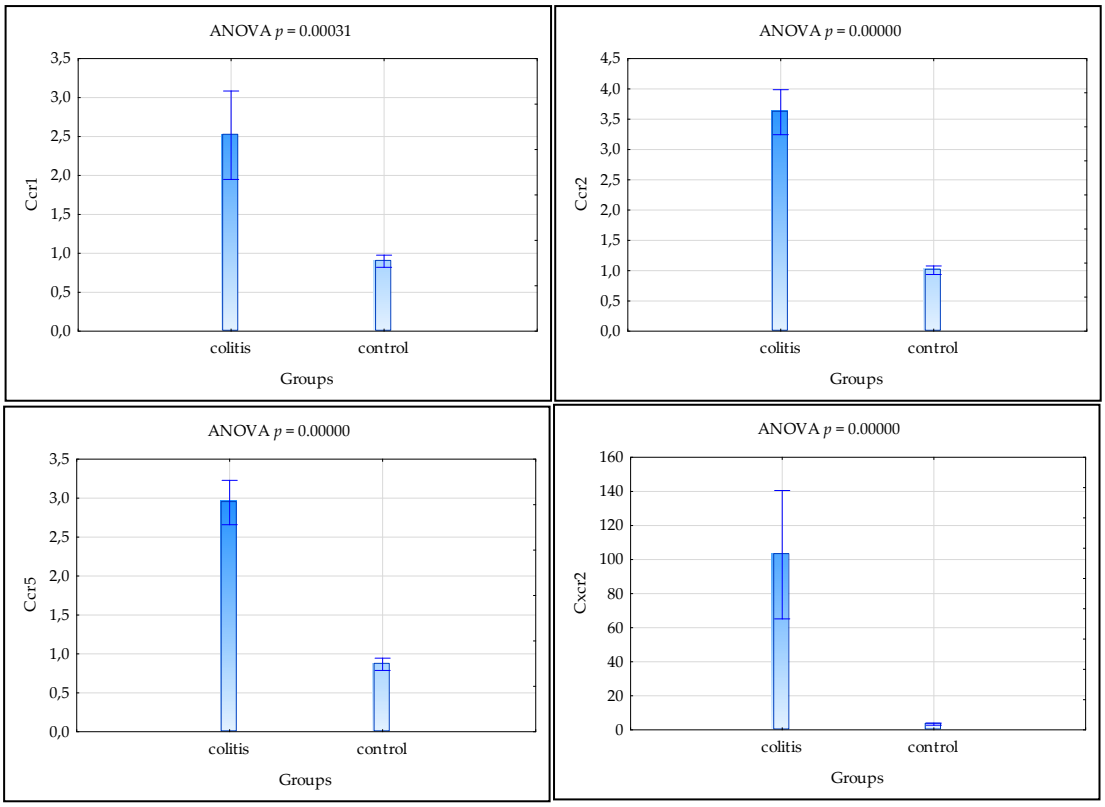

Figure S5. Changes of gene expression of selected chemokine receptors (mean ± SE) by influence of inflammation. ANOVA analysis.

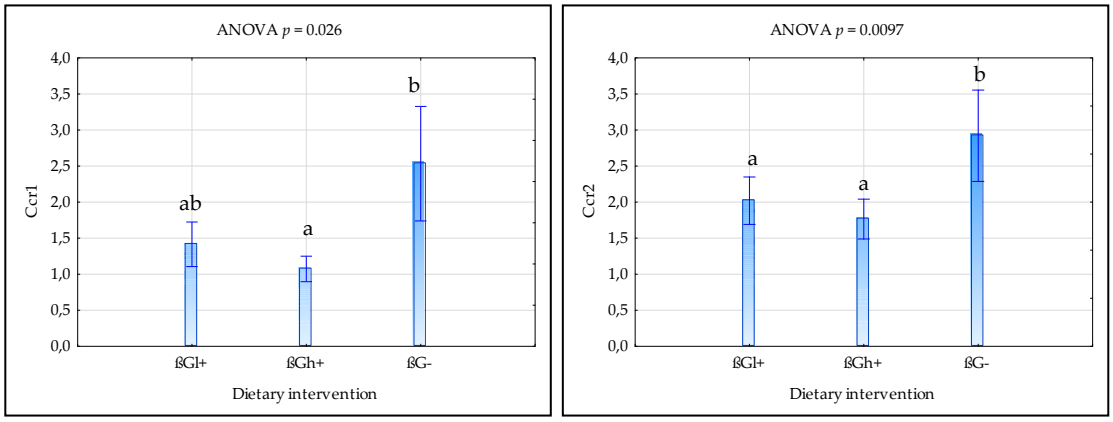

Figure S6. Changes of gene expression of selected chemokine receptors (mean ± SE) by influence of dietary intervention. ANOVA analysis. [a,b] Different letters denote significant differences between dietary group according to the Tukey post-hoc test (a,b $p < 0.05$).

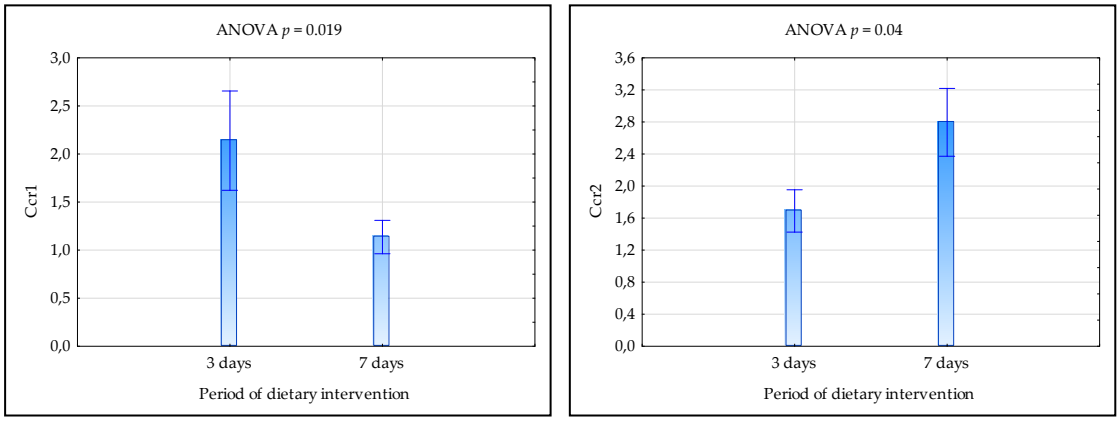

Figure S7. Changes of gene expression of selected chemokine receptors (mean ± SE) by influence of the period of dietary intervention. ANOVA analysis.

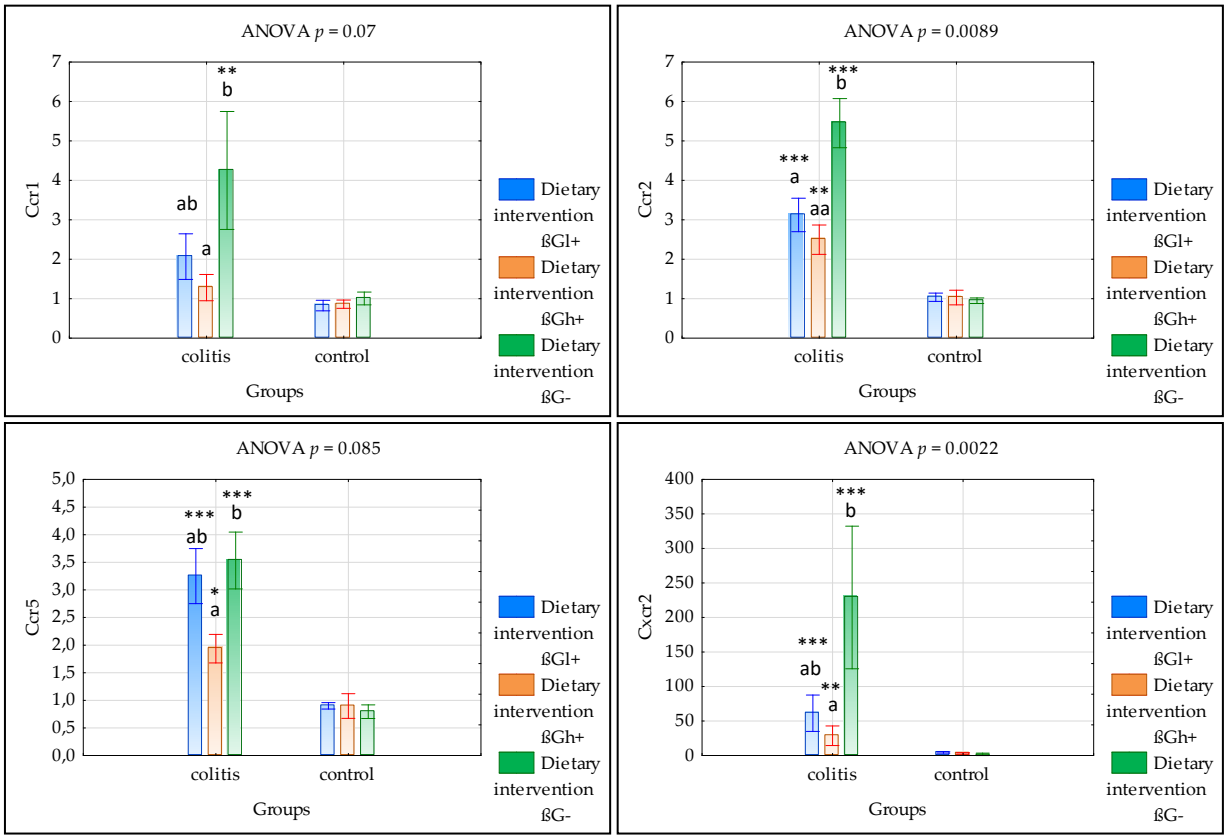

Figure S8. Changes of gene expression of selected chemokine receptors (mean ± SE) by influence of interaction between the period of inflammation and dietary intervention. ANOVA analysis. [a,b] Different letters denote significant between

dietary groups in the *colitis* group according to the Tukey post-hoc test (a,b $p < 0.05$, a,bb/cc $p < 0.001$). * Significantly different from control group (control βG-) according to the Tukey post-hoc test (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$).

Osm, *Csf3* and *Spp1* gene expression

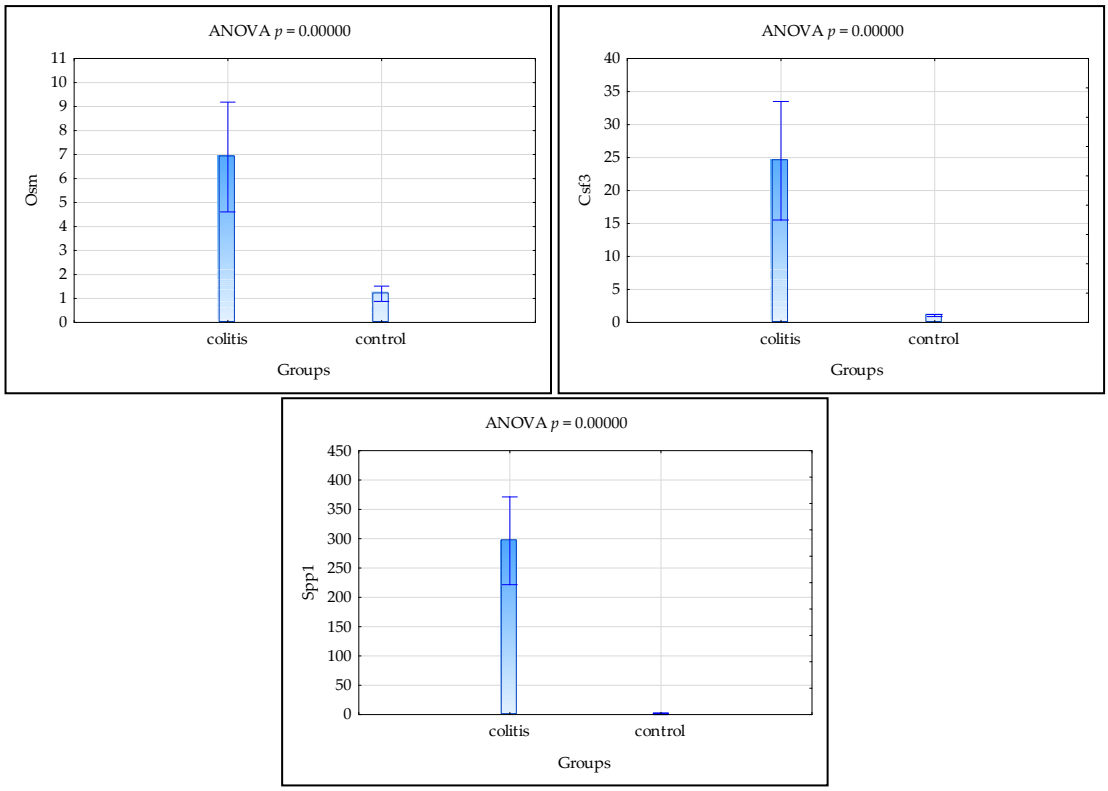

Figure S9. Changes of gene expression of *Osm*, *Csf3* and *Spp1* (mean ± SE) by influence of inflammation. ANOVA analysis.

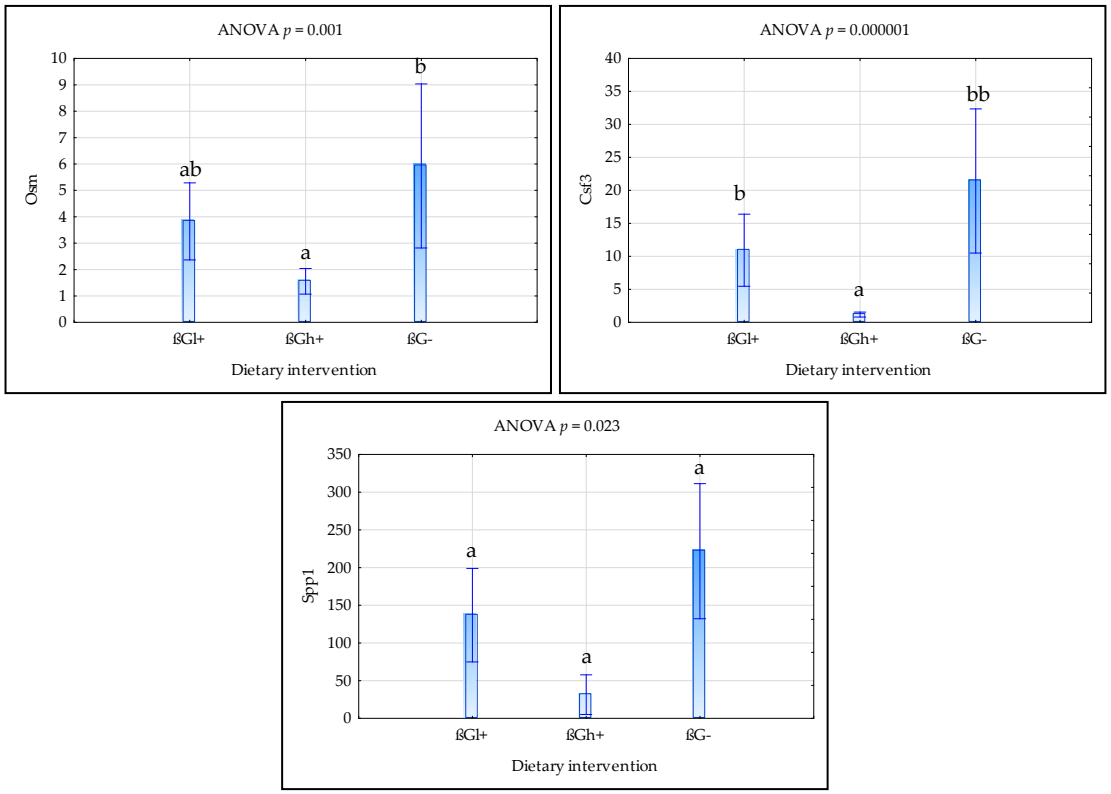

Figure S10. Changes of gene expression of *Osm*, *Csf3* and *Spp1* (mean ± SE) by influence of dietary intervention. ANOVA analysis. [a,b] Different letters denote significant differences between dietary group according to the Tukey post-hoc test (a,b $p < 0.05$, a,bb $p < 0.01$).

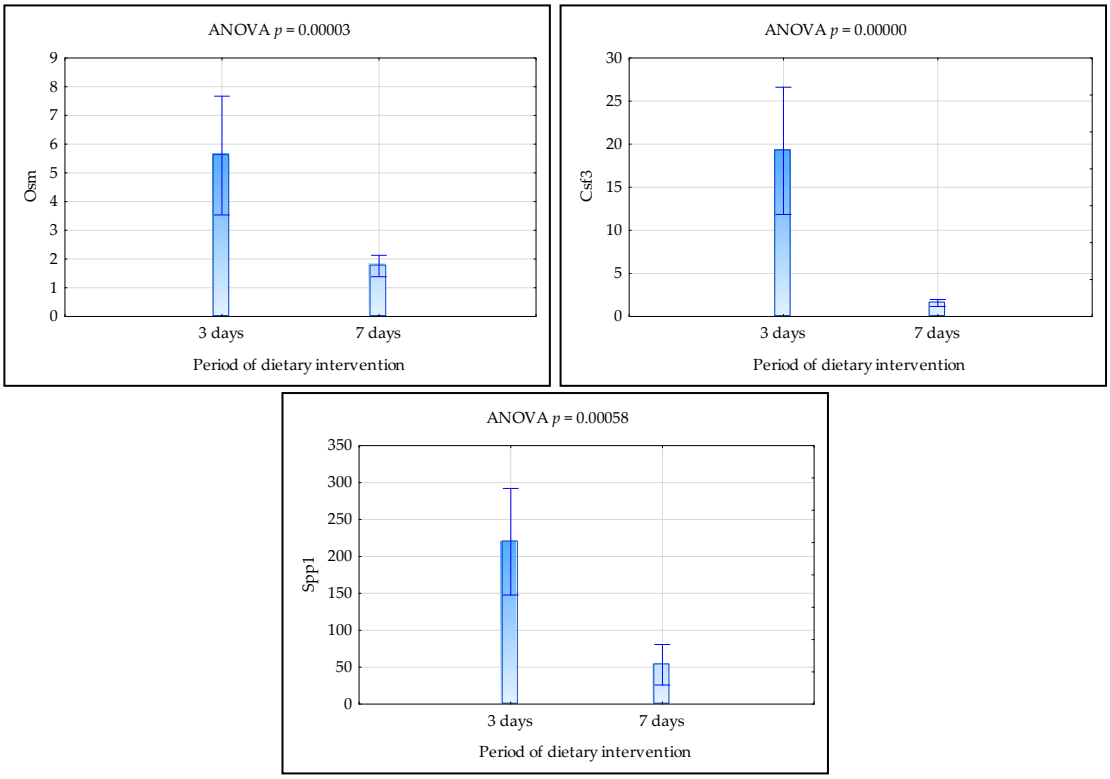

Figure S11. Changes of gene expression of *Osm*, *Csf3* and *Spp1* (mean ± SE) by influence of the period of dietary intervention. ANOVA analysis.

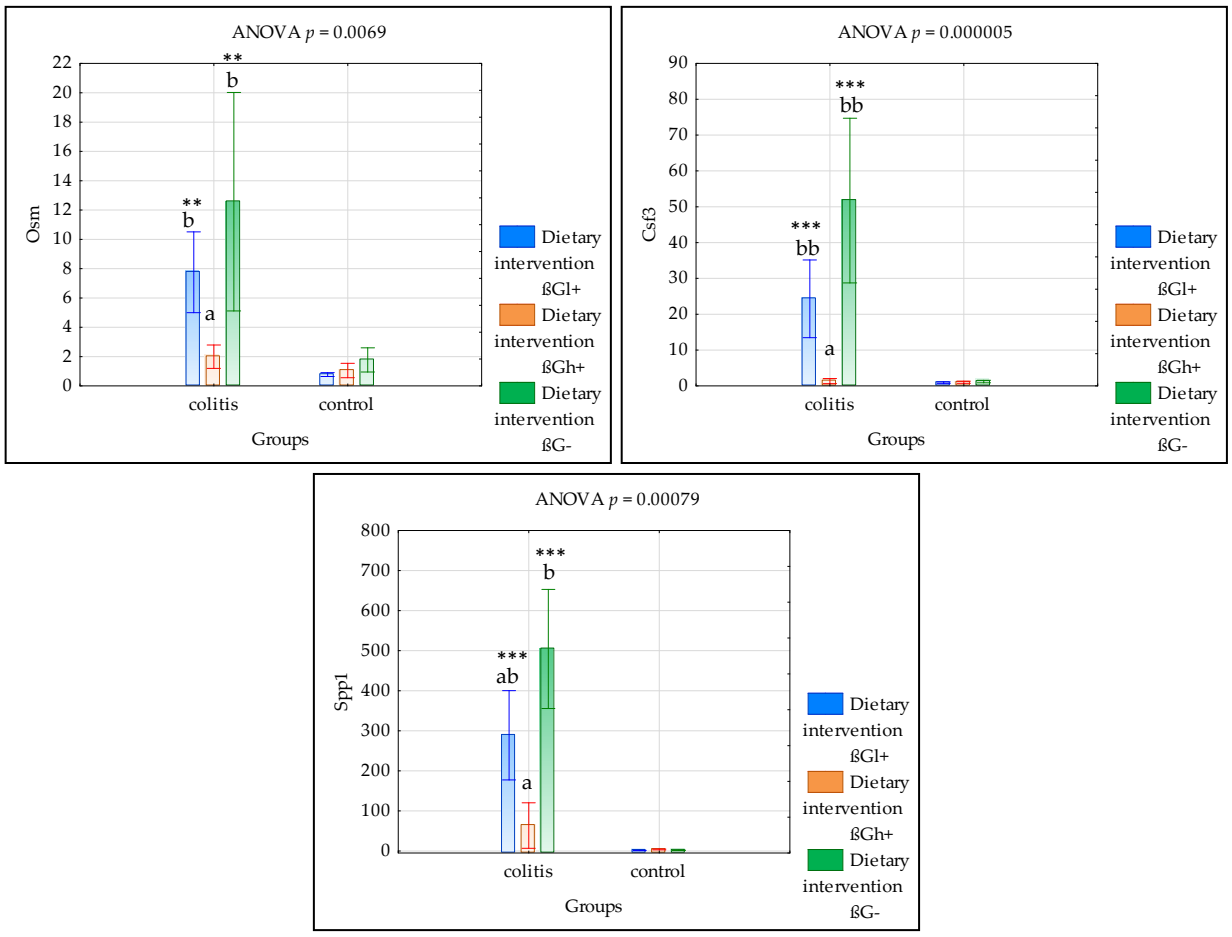

Figure S12. Changes of gene expression of *Osm*, *Csf3* and *Spp1* (mean ± SE) by influence of interaction between the period of inflammation and dietary intervention. ANOVA analysis. [a,b] Different letters denote significant between dietary groups in the *colitis* group according to the Tukey post-hoc test (a,b $p < 0.01$, a,bb $p < 0.001$). * Significantly different from control group (control βG-) according to the Tukey post-hoc test (** $p < 0.01$, *** $p < 0.001$).

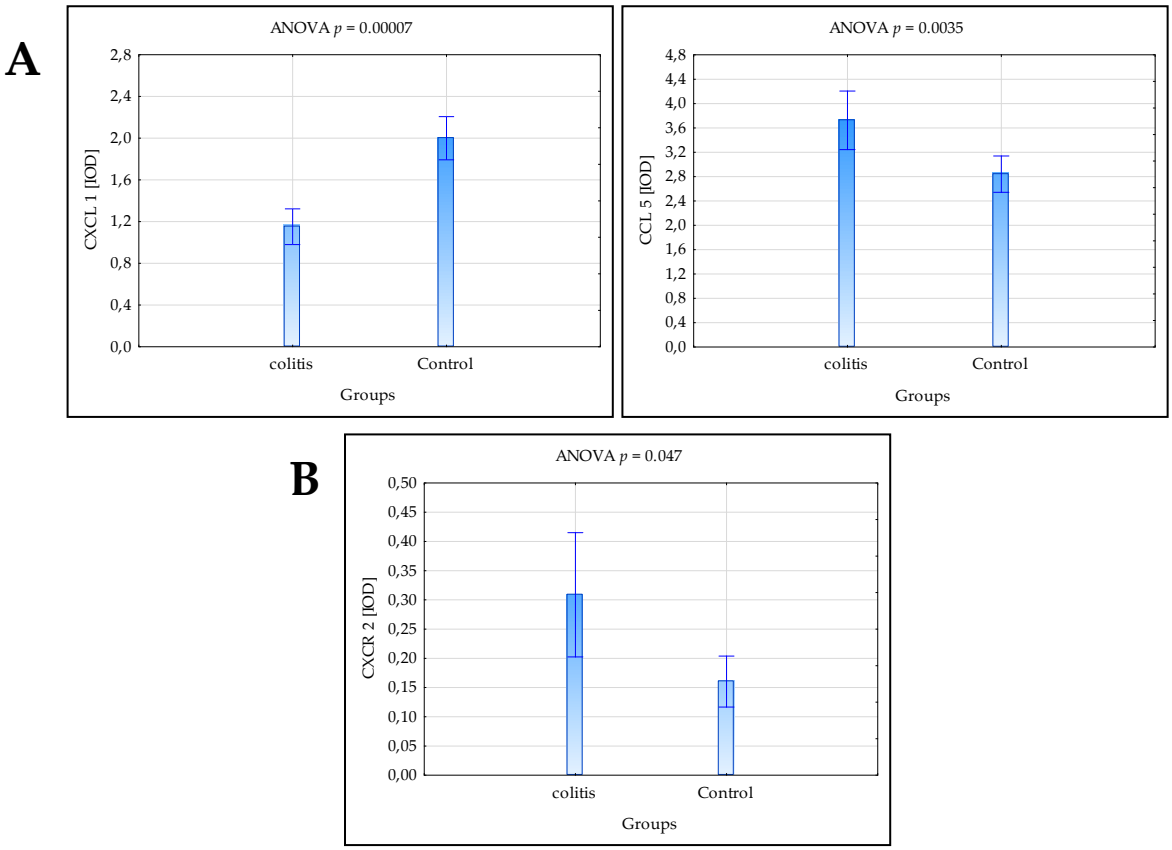

Figure S13. Changes expression of CXCL1 and CCL5 chemokines (**A**) and CXCR2 receptor (**B**) (mean ± SE) by influence of inflammation. ANOVA analysis

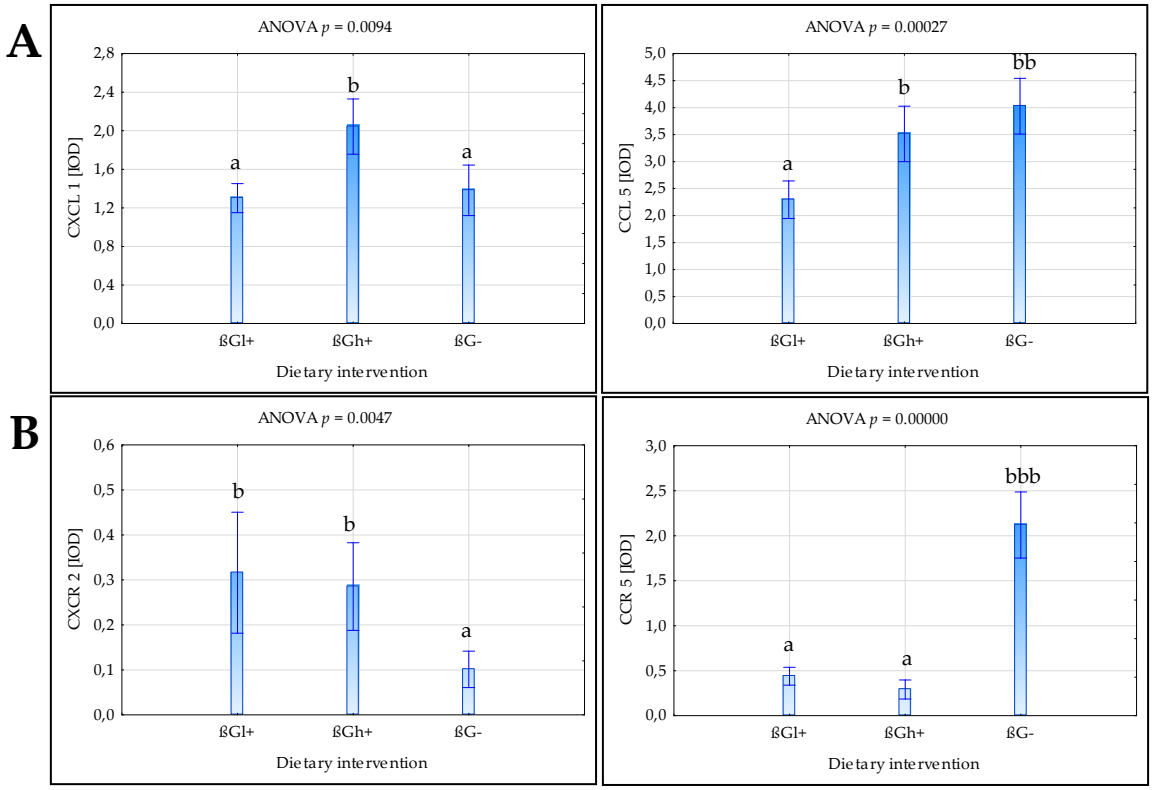

Figure S14. Changes expression of CXCL1 and CCL5 chemokines (**A**) and CXCR2 and CCR5 receptors (**B**) (mean ± SE), by influence of dietary intervention. ANOVA analysis. [a,b] Different letters denote significant differences between dietary group according to the Tukey post-hoc test (a,b $p < 0.05$, a,bb $p < 0.01$, a,bbb $p < 0.001$).

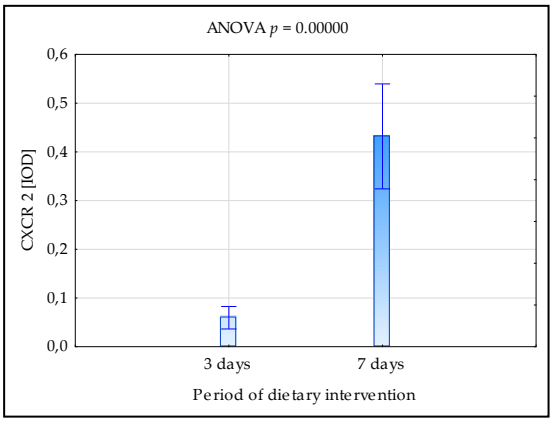

Figure S15. Changes expression of CXCR2 receptor (mean ± SE) by influence of the period of dietary intervention. ANOVA analysis.

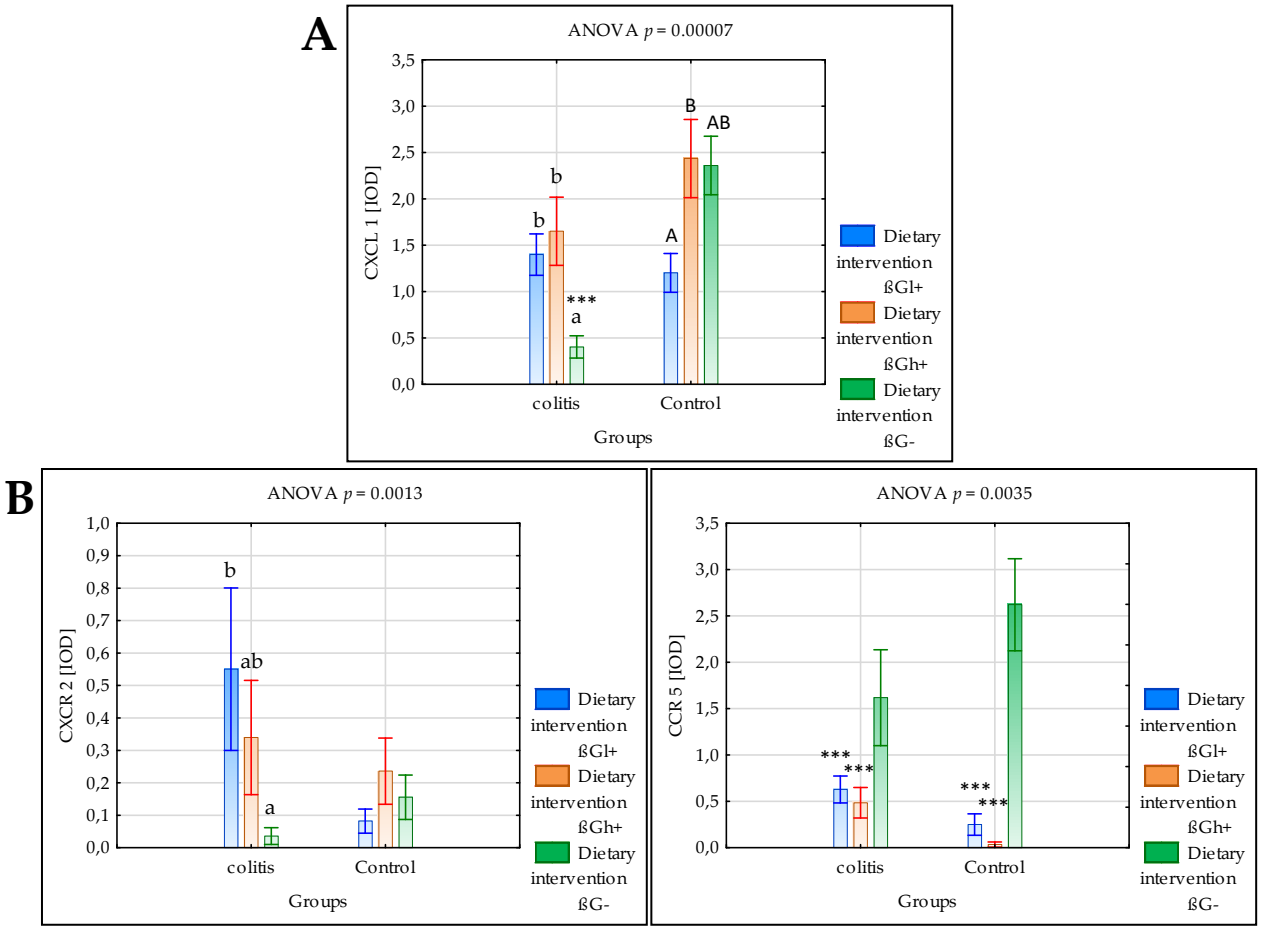

Figure S16. Changes expression of CXCL1 chemokine (**A**) and CXCR2 and CCR5 receptors (**B**) (mean ± SE) by influence of interaction between the period of inflammation and dietary intervention. ANOVA analysis. [a,b] Different letters denote significant between dietary groups in the *colitis* group according to the Tukey post-hoc test (a,b $p < 0.01$). [A,B] Different large letters denote significant between dietary groups in the control group according to the Tukey post-hoc test (A,B $p < 0.05$). * Significantly different from control group (control βG-) according to the Tukey post-hoc test (*** $p < 0.001$).

Osteopontin (OPN) expression in the colon mucosa

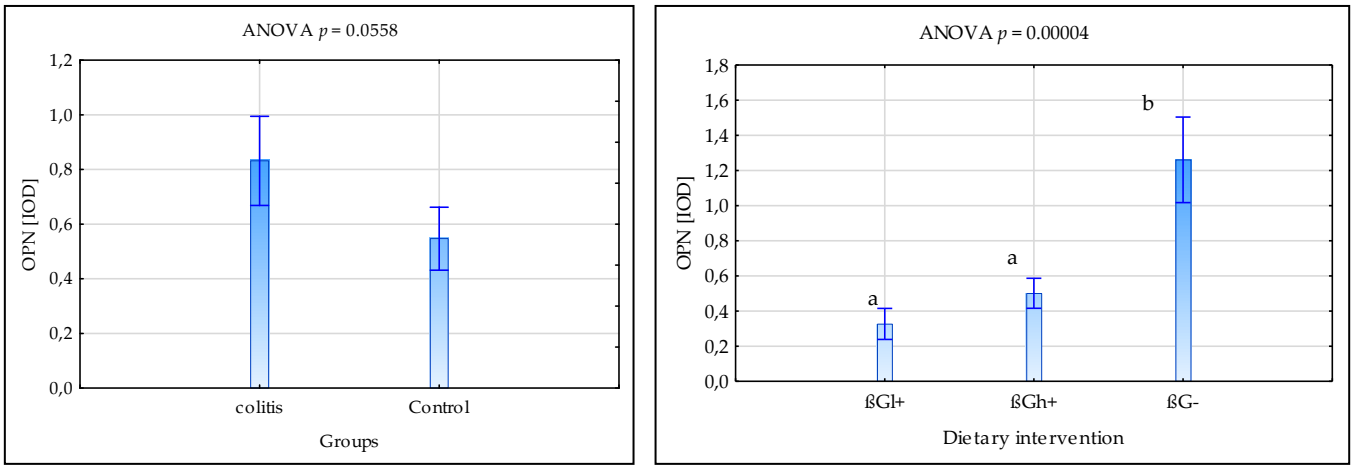

Figure S17. Changes expression of OPN (mean ± SE) by influence of inflammation (**A**) and influence of dietary intervention (**B**). ANOVA analysis. [a,b] Different letters denote significant differences between dietary group according to the Tukey post-hoc test (a,b $p < 0.01$).

		CβG- vs HβG-	CβGl+ vs CβG-	CβGh+ vs CβG-	HβGl+ vs HβG-	HβGh+ vs HβG-
3 days	up-regulation	**Σ 23 gens** CCL and CCR: *Ccl2, Ccl3, Ccl4, Ccl7, Ccl12, Ccl17, Ccl19, Cxcl1, Cxcl2, Cxcl6, Cxcl9, Ccr1, Ccr2, Ccr3, Ccr4, Ccr5, Ccr8, Cxcr2, Cxcr3, Cxcr5* Other: *Csf3, Osm, Spp1*	**Σ 3 gens** CCL: *Cccl10, Cxcl11, Cxcl9*	**Σ 3 gens** CCL: *Ccl20, Ccl24, Cx3cl1*	**Σ 4 gens** CCL and CCR:*Cx3cl1, Ccr8, Cxcr3, Cxcr5,*	**Σ 8 gens** CCL and CCR: *Ccl4, Ccl19, Ccl20, Cx3cl1, Ccr4, Ccr8, Cxcr3, Cxcr5*
	down-regulation	**Σ 2 gens** CCL and CCR: *Cx3cl1*, Ccr10	**Σ 15 gens** CCL and CCR: *Ccl3, Ccl4, Ccl19, Ccl22, Cxcl2, Ccr1, Ccr4, Ccr6, Ccr8, Cxcr1, Cxcr2, Cxcr3, Cxcr5* Other: *Csf3, Osm*	**Σ 16 gens** CCL and CCR: *Ccl2, Ccl3, Ccl4, Ccl7, Ccl19, Cxcl1, Cxcl2, Cxcl6, Ccr1, Ccr2, Ccr5, Cxcr1, Cxcr2* Other: *Csf3, Osm, Spp1*		
7days	up-regulation	**Σ 22 gens** CCL and CCR:*Ccl2, Ccl3, Ccl4, Ccl5, Ccl6, Ccl7, Ccl12, Ccl17, Cxcl1, Cxcl2, Cxcl6, Cxcl9, Cxcl11, Ccr1, Ccr2, Ccr3, Ccr5, Ccr8, Cxcr2* Other: *Csf3, Osm, Spp1*	**Σ 4 gens** CCL and CCR: *Ccl19, Cxcl10, Cx3cr1, Cxcr5*	**Σ 4 gens** CCL and CCR: *Ccl19, Cxcl9, Ccr4, Ccr8*	**Σ 6 gens** CCL and CCR: *Ccl5, Ccl12, Ccl17, Cxcl9, Cxcl11, Cxcr2*	Σ 3 gens CCL and CCR: *Ccl5, Cxcl11, Cxcr2*
	down-regulation	**Σ 4 gens** CCL and CCR : *Ccl19, Ccl20, Cx3cl1, Cxcr5*	**Σ 6 gens** CCL: *Ccl20, Cxcl1, Cxcl2* Other: *Csf3, Osm, Spp1*	**Σ 7 gens** CCL and CCR : *Ccl3, Cxcl1, Cxcl2, Cxcr2* Other: *Csf3, Osm, Spp1*	**Σ 4 gens** CCL and CCR: *Cx3cl1, Ccr1, Ccr2, Cx3cr1*	**Σ 12 gens** CCL and CCR: *Ccl3, Ccl9, Ccl19, Ccl20, Cxcl2, Cxcl6, Ccr4, Ccr6, Ccr8, Cx3cr1, Cxcr5* Other: *Osm*

Table S1. Changes in gene expression 3 and 7 days after TNBS administration. Regulation of genes encode chemokines and their receptors and other colon inflammation-related proteins in the colon tissue. Results are reported as fold regulation > 2.

Chemokines and their receptors: chemokine (C-C motif) ligand 2 (*Ccl2*), chemokine (C-C motif) ligand 3 (*Ccl3*), chemokine (C-C motif) ligand 4 (*Ccl4*), chemokine (C-C motif) ligand 5 (*Ccl5*), chemokine (C-C motif) ligand 6(*Ccl6*), chemokine (C-C motif) ligand 7 (*Ccl7*), chemokine (C-C motif) ligand 9 (*Ccl9*), chemokine (C-C motif) ligand 12 (*Ccl12*), chemokine (C-C motif) ligand 17 (*Ccl17*), chemokine (C-C motif) ligand 19 (*Ccl19*), chemokine (C-C motif) ligand 20 (*Ccl20*), chemokine (C-C motif) ligand 22 (*Ccl22*),chemokine (C-C motif) ligand 24 (*Ccl24*), chemokine (C-X3-C motif) ligand 1 (*Cx3cl1*), chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha) (*Cxcl1*), chemokine (C-X-C motif) ligand 2 (*Cxcl2*), chemokine (C-X-C motif) ligand 6 (*Cxcl6*), chemokine (C-X-C motif) ligand 9 (*Cxcl9*), chemokine (C-X-C motif) ligand 10 (*Cxcl10*), chemokine (C-X-C motif) ligand 11 (*Cxcl11*), chemokine (C-C motif) receptor 1 (*Ccr1*), chemokine (C-C motif) receptor 2, (*Ccr2*), chemokine (C-C motif) receptor 3(*Ccr3*), chemokine (C-C

motif) receptor 4 (Ccr4), chemokine (C-C motif) receptor 5 (*Ccr5*), chemokine (C-C motif) receptor 6 (*Ccr6*), chemokine (C-C motif) receptor 8 (*Ccr8*), chemokine (C-C motif) receptor 10 (*Ccr10*), Chemokine (C-X3-C motif) receptor 1 (*Cx3cr1*), chemokine (C-X-C motif) receptor 2 (*Cxcr2*), chemokine (C-X-C motif) receptor 3(*Cxcr3*), chemokine (C-X-C motif) receptor 5(*Cxcr5)*

Other: colony stimulating factor 3 (granulocyte) (*Csf3*), oncostatin M (*Osm*), secreted phosphoprotein 1 (*Spp1*),

Table S2. Relative gene expression of chemokines (Mean ± SE). * Significantly different from the control βG- group at the same time point according to the Dunnett post hoc test (*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$).

Time	3 days						7 days					
Colon inflammation	*colitis*			control			*colitis*			control		
Dietary intervention	ßGl+	ßGh+	ßG-	ßGl+	ßGh+	ßG-	ßGl+	ßGh+	ßG-	ßGl+	ßGh+	ßG-
Ccl2	4,108*	1,705	5,043**	0,666	0,582	0,642	1,711	2,428	1,530	1,484	0,679	1,000
SE	1,64	0,61	1,66	0,25	0,12	0,13	0,29	0,83	0,25	0,81	0,05	0,25
Ccl6	2,145	1,461	2,608	1,147	1,105	1,341	2,281	2,394	3,203	1,848	0,989	1,000
SE	0,63	0,17	0,91	0,09	0,20	0,14	0,84	0,87	1,41	0,61	0,16	0,11
Ccl7	6,126	2,718	9,581**	0,651	0,479	0,678	2,407	2,587	2,812	2,078	0,813	1,000
SE	2,52	1,27	3,35	0,14	0,08	0,12	0,57	0,91	0,36	1,40	0,12	0,10
Ccl9	0,214	0,153	0,193	0,199	0,320	0,130	0,535	0,514	0,535	0,668	0,265	1,000
SE	0,08	0,04	0,05	0,05	0,16	0,02	0,24	0,18	0,22	0,24	0,20	0,38
Ccl11	1,296	1,519	3,381	1,552	0,757	1,241	2,108	1,539	1,305	1,251	1,711	1,000
SE	0,27	0,16	1,75	0,28	0,19	0,24	0,38	0,23	0,23	0,26	0,49	0,26
Ccl12	21,583	10,616	17,314	0,792	1,039	1,046	14,206	16,178	25,334*	1,540	2,065	1,000
SE	5,52	3,75	7,11	0,20	0,22	0,24	5,14	6,41	11,99	0,73	1,03	0,25
Ccl17	1,475***	2,767***	1,537	0,378	0,821	0,698	5,482	5,396	3,534	1,605	0,454	1,000
SE	0,17	0,64	0,32	0,07	0,29	0,25	1,29	1,65	0,36	0,74	0,02	0,31
Ccl19	0,023	0,016	0,220	0,041	0,010	0,015	0,499	0,273	0,416	0,635	0,485	1,000
SE	0,01	0,00	0,21	0,03	0,00	0,00	0,28	0,26	0,40	0,39	0,48	0,41
Ccl20	0,310	0,386	0,207	0,257	0,616	0,355	0,327	0,752	0,263	0,765	0,247	1,000
SE	0,13	0,09	0,08	0,03	0,17	0,12	0,18	0,42	0,07	0,28	0,05	0,48
Ccl22	0,663	1,041	0,229	0,809	3,007	1,098	1,887	2,515	1,880	1,566	0,571	1,000
SE	0,37	0,23	0,06	0,14	1,46	0,35	0,80	1,11	0,67	0,60	0,20	0,35
Ccl24	0,901	1,105	0,569	1,462	0,923	0,888	0,769	0,884	0,739	1,108	0,852	1,000
SE	0,23	0,06	0,16	0,29	0,09	0,12	0,15	0,22	0,20	0,09	0,21	0,13
Cxcl6	15,405	3,969	23,984*	0,591	0,389	0,665	2,599	2,504	2,598	1,773	0,477	1,000
SE	9,34	1,83	12,04	0,18	0,09	0,29	0,44	0,37	1,03	0,72	0,08	0,24
Cxcl12	0,974	1,061	1,406	1,538	1,218	1,082	0,741	0,977	1,084	1,131	1,199	1,000
SE	0,29	0,16	0,12	0,23	0,19	0,16	0,20	0,33	0,30	0,08	0,28	0,21
Cx3cl1	0,982	0,200	0,084	1,722	1,630	0,808	0,091	0,438	0,207	1,173	0,963	1,000
SE	0,63	0,02	0,02	0,83	0,68	0,61	0,03	0,28	0,14	0,59	0,82	0,46

Table S3. Relative gene expression of chemokine receptors (Mean ± SE). * Significantly different from the control βG- group at the same time point according to the Dunnett post hoc test (**$p < 0.01$, ***$p < 0.001$).

Time	3 days						7 days					
Colon inflammation	*colitis*			control			*colitis*			control		
Dietary intervention	ßGl+	ßGh+	ßG-	ßGl+	ßGh+	ßG-	ßGl+	ßGh+	ßG-	ßGl+	ßGh+	ßG-
Ccr3	1,559	2,184	2,536	1,295	0,993	1,242	3,143***	3,026**	3,122***	1,167	0,917	1,000
SE	0,38	0,52	0,35	0,14	0,20	0,14	0,49	0,58	0,19	0,23	0,20	0,18
Ccr4	0,827	0,593	1,300	0,377	0,312	0,264	1,129	1,338	0,869	1,147	0,634	1,000
SE	0,34	0,20	0,94	0,10	0,06	0,04	0,43	0,30	0,44	0,38	0,59	0,46
Ccr6	0,088	0,088	0,132	0,126	0,103	0,098	0,682	0,800	0,396	0,654	0,294	1,000
SE	0,02	0,02	0,06	0,04	0,06	0,01	0,34	0,40	0,15	0,30	0,19	0,42
Ccr8	1,656	1,139	1,627	0,786	1,823	0,435	1,336	2,443	1,216	0,624	0,783	1,000
SE	0,70	0,32	0,78	0,16	1,24	0,31	0,40	1,20	0,59	0,39	0,00	0,48
Ccr10	0,763	0,757	0,728	2,122	1,618	1,246	0,787	0,755	0,743	1,212	0,813	1,000
SE	0,37	0,12	0,29	0,46	0,24	0,24	0,18	0,18	0,24	0,44	0,38	0,26
Cxcr1	1,533	0,978	2,026	1,853	1,076	1,485	1,845	1,772	0,935	1,415	1,010	1,000
SE	0,38	0,29	0,58	0,37	0,18	0,34	0,48	0,33	0,19	0,41	0,22	0,47
Cxcr3	0,622	0,599	0,990	0,613	0,788	0,300	0,925	0,857	0,743	0,795	0,774	1,000
SE	0,39	0,21	0,61	0,15	0,33	0,12	0,27	0,15	0,23	0,19	0,57	0,35
Cxcr5	0,048	0,115	0,222	0,115	0,096	0,057	0,123	0,071	0,132	0,557	0,019	1,000
SE	0,01	0,08	0,16	0,03	0,03	0,02	0,05	0,03	0,07	0,32	0,00	0,45
Cx3cr1	0,989	0,826	1,052	0,719	0,557	0,713	0,995	0,967	0,659	0,616	0,523	1,000
SE	0,36	0,04	0,20	0,10	0,16	0,10	0,20	0,20	0,10	0,05	0,20	0,25