Table S1. Quality and Safety parameters of PO[a]

Parameter	Result	Limit
Acid value (mg/g)	0.38 ± 0.03	≤ 5.0
Iodine value (g/100g)	184.4 ± 2.2	160-209
Benzo[a]pyrene (μg/kg)	Not detected	≤ 2.0
Escherichia coli	Negative	Not specified
Lead (Pb, mg/kg)	0.0037 ± 0.0005	≤ 0.1
Arsenic (As, mg/kg)	0.0005 ± 0.0001	≤ 0.1
Cadmium (Cd, mg/kg)	0.0002 ± 0.0001	Not specified
Mercury (Hg, mg/kg)	0.0016 ± 0.0006	Not specified

[a] Mean ± SE (all such values). PO, Perilla oil.

Table S2. Primer sequences list for qRT-PCR[a]

Gene		Primer sequence (5'-3')
IL-6	forward	GTAGTGAGGAACAAGCCAGAG
	reverse	GGACTGCAGGAACTCCTTAAA
TNF-α	forward	AGCCCATGTTGTAGCAAACC
	reverse	TCTCAGCTCCACGCCATT
IFN-γ	forward	GTGGAGACCATCAAGGAAGAC
	reverse	CAGGCAGGACAACCATTACT
TBX21	forward	GCCAAAGGATTCCGGGAGAA
	reverse	CCTGGGGAACCACATCCTTC
GATA3	forward	CTTTGCTGCCTCCAAGAACAC
	reverse	GCGAGTGTCCTTCTCATGGT
GATA3	forward	GTCCTGTGCGAACTGTCAGA
	reverse	CGAGCTGTTCTTGGGGAAGT
IL-10	forward	ACACATCAGGGGCTTGCTC
	reverse	GTGGTCAGGCTTGGAATGGA
FOXP3	forward	CCCACTTACAGGCACTCCTC
	reverse	GGGATTTGGGAAGGTGCAGA
β-actin	forward	GCCTCGCCTTTGCCGAT
	reverse	GCCTCGCCTTTGCCGAT

[a] IL; interleukin, TNF; tumor necrosis factor-α, IFN; interferon; TBX21, T-box transcription factor 21; GATA3. gata binding protein 3; FOX, forkheadbox.

Table S3. Compliance[a]

(unit: %)

	Placebo (*N*=33)	**PO (*N*=32)**	***P*-value[b]**
Week 4	99.7 ± 0.7	101.1 ± 1.9	0.502
Week 8	99.7 ± 0.2	98.8 ± 0.6	0.190
Total	99.7 ± 0.4	100.0 ± 1.1	0.807

[a] Mean ± SE (all such values). PO, Perilla oil.

[b] Two-sample t-test was used to compare the difference between the groups.

Table S4. Alcohol intake, smoking amount, dietary intake, MEDFICTS and physical activity[a]

Variables	Placebo (*N*=33)	PO (*N*=32)	*P*-value[b]
Alcohol intake (SD/wk)			
Week 0	2.2 ± 0.8	4.4 ± 0.9	
Week 4	3.7 ± 1.0	6.6 ± 1.4	
Week 8	6.3 ± 1.6	5.0 ± 1.0	0.026
P-value[c]	<0.001	0.599	
Smoking amount (cigarette/d)			
Week 0	11.5 ± 1.0	11.6 ± 1.0	
Week 4	10.6 ± 1.0	11.8 ± 1.0	
Week 8	10.9 ± 0.9	11.9 ± 1.0	0.593
P-value[c]	0.544	0.263	
Dietary intake			
Energy (Kcal/d)			
Week 0	1541.3 ± 57.3	1642.5 ± 57.5	
Week 4	1565.0 ± 55.9	1725.1 ± 51.5	
Week 8	1585.1 ± 52.6	1723.4 ± 54.8	0.586
P-value[c]	0.198	0.045	
Carbohydrate (g/d)			
Week 0	217.3 ± 10.1	232.9 ± 9.4	
Week 4	217.8 ± 10.0	239.4 ± 7.3	
Week 8	225.3 ± 9.2	237.3 ± 8.7	0.621
P-value[c]	0.252	0.538	
Protein (g/d)			
Week 0	59.1 ± 2.6	61.4 ± 3.4	
Week 4	62.0 ± 2.4	68.3 ± 3.3	
Week 8	60.9 ± 2.3	67.7 ± 2.5	0.345
P-value[c]	0.388	0.006	
Fat (g/d)			
Week 0	48.8 ± 2.2	50.3 ± 2.7	
Week 4	50.1 ± 2.4	51.0 ± 2.7	
Week 8	49.3 ± 2.9	54.8 ± 2.9	0.366
P-value[c]	1.000	0.103	

Table S4. Alcohol intake, smoking amount, dietary intake, MEDFICTS and physical activity[a] (continued)

Variables	Placebo (*N*=33)	PO (*N*=32)	*P*-value[b]
Sodium (mg/d)			
Week 0	3576.2 ± 247.8	3324.8 ± 255.9	
Week 4	3484.1 ± 218.6	3481.6 ± 221.6	
Week 8	3695.1 ± 198.4	3464.7 ± 149.0	0.483
P-value[c]	0.364	0.057	
MEDFICTS			
Week 0	32.5 ± 3.0	31.7 ± 2.5	
Week 4	28.1 ± 2.7	29.9 ± 2.9	
Week 8	32.2 ± 2.9	28.3 ± 2.2	0.312
P-value[c]	0.971	0.211	
Physical activity (MET-min/wk)			
Week 0	4026.1 ± 758.7	3033.1 ± 608.5	
Week 4	2605.5 ± 385.9	2948.9 ± 569.9	
Week 8	3126.7 ± 485.5	3329.3 ± 675.7	0.189
P-value[c]	0.115	0.630	

[a] Mean ± SE (all such values). PO, Perilla oil; SD, standard drink; MEDFICTs, Meats, eggs, dairy, fried foods, fat in baked goods, convenience foods, fats added at the table, snacks; MET, metabolic equivalent task.

[b] Linear mixed-effect model was used to analyze the effects of group*week.

[c] Linear mixed-effect model was used to analyze the difference within each group.

Table S5. Platelet aggregation[a]

Variables	*N*	Placebo	*N*	PO	Estimate[b]	*P*-value[b]	*P*-value[c]
C-ADP CT (sec)							
Week 0	32	94.0 ± 3.1	30	94.5 ± 3.6			
Week 8	32	96.1 ± 3.2	32	106.2 ± 3.9	8.6	0.045	0.067
P-value[d]		0.661		0.001			
C-EPI CT (sec)							
Week 0	31	130.5 ± 5.6	32	134.8 ± 6.7			
Week 8	30	137.7 ± 5.3	31	151.1 ± 8.5	11.9	0.186	0.225
P-value[d]		0.474		0.008			

[a] Mean ± SE (all such values). PO, Perilla oil; C-ADP CT, Collagen-ADP closure time; C-EPI CT, Collagen-epinephrine closure time. Number of participants used for analysis after outlier removal based on available data.

[b] Linear mixed-effect model adjusted with alcohol intake for 8 weeks was used to compare the changes for 8 weeks between the groups.

[c] Linear mixed-effect model was used to compare the changes for 8 weeks between the groups.

[d] Linear mixed-effect model adjusted with alcohol intake for 8 weeks was used to compare the changes for 8 weeks within each group.

Table S6. Blood coagulation and fibrinolysis[a]

Variables	*N*	Placebo	*N*	PO	Estimate[b]	*P*-value[b]	*P*-value[c]
Blood coagulation							
PT (sec)							
Week 0	32	11.09 ± 0.08	31	11.06 ± 0.08			
Week 8	32	11.18 ± 0.08	32	11.18 ± 0.08	0.04	0.739	0.630
P-value[d]		0.208		0.077			
aPTT (sec)							
Week 0	30	26.69 ± 0.26	32	26.99 ± 0.25			
Week 8	33	27.42 ± 0.34	32	27.42 ± 0.28	-0.30	0.249	0.343
P-value[d]		< 0.001		0.012			
Fibrinolysis							
Fibrinogen (mg/dL)							
Week 0	33	234.1 ± 8.0	31	237.2 ± 8.4			
Week 8	31	220.7 ± 8.2	32	231.0 ± 6.9	0.2	0.818	0.686
P-value[d]		0.283		0.406			
D-dimer (ng/mL)							
Week 0	32	939.3 ± 101.1	29	862.5 ± 64.4			
Week 8	32	1024.8 ± 108.3	30	887.0 ± 85.1	-40.5	0.531	0.454
P-value[d]		0.553		0.776			

[a] Mean ± SE (all such values). PO, Perilla oil; PT, prothrombin time; aPTT, activated partial thromboplastin time. Number of participants used for analysis after outlier removal based on available data.

[b] Linear mixed-effect model adjusted with alcohol intake for 8 weeks was used to compare the changes for 8 weeks between the groups.

[c] Linear mixed-effect model was used to compare the changes for 8 weeks between the groups.

[d] Linear mixed-effect model adjusted with alcohol intake for 8 weeks was used to compare the changes for 8 weeks within each group.

Table S7. Fasting lipid profiles[a]

Variables	*N*	Placebo	*N*	PO	Estimate[b]	*P*-value[b]	*P*-value[c]
TC (mg/dL)							
Week 0	29	211.4 ± 3.9	32	209.4 ± 5.3			
Week 8	33	213.0 ± 5.7	32	209.5 ± 5.0	4.5	0.424	0.559
P-value[d]		0.279		0.987			
HDL-C (mg/dL)							
Week 0	33	69.1 ± 3.0	32	65.3 ± 2.8			
Week 8	32	65.5 ± 2.5	32	66.0 ± 2.1	4.6	0.138	0.229
P-value[d]		0.076		0.801			
LDL-C (mg/dL)							
Week 0	32	105.9 ± 4.1	32	101.5 ± 4.0			
Week 8	33	104.3 ± 3.9	32	98.6 ± 3.8	-1.5	0.745	0.851
P-value[d]		0.672		0.359			
VLDL-C (mg/dL)							
Week 0	30	38.4 ± 3.2	31	40.9 ± 3.0			
Week 8	33	41.3 ± 3.5	32	44.9 ± 3.4	2.6	0.579	0.705
P-value[d]		0.867		0.331			
TG (mg/dL)							
Week 0	30	108.4 ± 9.9	29	108.9 ± 7.8			
Week 8	31	113.3 ± 10.3	31	121.4 ± 10.2	11.5	0.536	0.702
P-value[d]		0.941		0.419			

[a] Mean ± SE (all such values). PO, Perilla oil; TC, total cholesterol; HDL-C, high density lipoprotein cholesterol; LDL-C, low density lipoprotein cholesterol; VLDL-C, very low density lipoprotein cholesterol; TG, triglyceride. Number of participants used for analysis after outlier removal based on available data.

[b] Linear mixed-effect model adjusted with alcohol intake for 8 weeks was used to compare the changes for 8 weeks between the groups.

[c] Linear mixed-effect model was used to compare the changes for 8 weeks between the groups.

[d] Linear mixed-effect model adjusted with alcohol intake for 8 weeks was used to compare the changes for 8 weeks within each group.

Table S8. mRNA expression related to inflammation[a]

(unit: fold change)

Variables	*N*	Placebo	*N*	PO	Estimate[b]	*P*-value[b]	*P*-value[c]
IL-6							
Week 0	22	1.0 ± 3.9	21	1.0 ± 0.2			
Week 8	23	1.4 ± 5.7	21	0.8 ± 0.2	-0.2	0.444	0.220
P-value[d]		0.694		0.495			□
TNF-α							
Week 0	28	1.0 ± 0.2	27	1.0 ± 0.2			
Week 8	28	1.4 ± 0.3	25	0.7 ± 0.1	-0.7	0.027	0.016
P-value[d]		0.323		0.034			□
TBX21							
Week 0	28	1.0 ± 1.0	28	0.3 ± 4.0			
Week 8	30	1.8 ± 0.4	26	0.1 ± 3.8	-1.0	0.022	0.016
P-value[d]		0.286		0.029			□
IFN-γ							
Week 0	29	1.0 ± 1.0	27	1.0 ± 0.3			
Week 8	27	1.2 ± 1.0	29	1.0 ± 0.3	-0.2	0.295	0.145
P-value[d]		0.646		0.301			□
GATA3							
Week 0	30	1.0 ± 0.2	26	1.0 ± 0.2			
Week 8	27	1.0 ± 0.3	27	1.4 ± 0.2	0.5	0.215	0.207
P-value[d]		0.899		0.107			□
IL-4							
Week 0	29	1.0 ± 0.2	29	1.0 ± 0.2			
Week 8	31	2.1 ± 0.4	28	0.9 ± 0.2	-1.1	0.087	0.141
P-value[d]		0.006		0.623			□
FOXP3							
Week 0	26	1.0 ± 0.3	25	1.0 ± 0.3			
Week 8	24	0.7 ± 0.2	25	0.6 ± 0.2	-1.0	0.075	0.043
P-value[d]		0.246		0.187			□
IL-10							
Week 0	28	1.0 ± 0.2	28	1.0 ± 0.3			
Week 8	30	1.1 ± 0.3	26	1.1 ± 0.3	0.0	0.361	0.407
P-value[d]		0.043		0.390			□

[a] Mean ± SE (all such values). PO, Perilla oil; IL, interleukin; TNF, tumor necrosis factor; TBX21, t-box transcription factor 21; IFN, interferon; GATA3, GATA binding protein 3; FOXP3, forkhead box P3. Number of participants used for analysis after outlier removal based on available data.

[b] Linear mixed-effect model adjusted with alcohol intake for 8 weeks was used to compare the changes for 8 weeks between the groups.

[c] Linear mixed-effect model was used to compare the changes for 8 weeks between the groups.

[d] Linear mixed-effect model adjusted with alcohol intake for 8 weeks was used to compare the changes for 8 weeks within each group.

Table S9. Inflammation and endothelial activation[a]

(unit: ng/mL)

Variables	*N*	Placebo	*N*	PO	Estimate[b]	*P*-value[b]	*P*-value[c]
SAA							
Week 0	31	2787.6 ± 326.2	28	4071.2 ± 777.9			
Week 8	29	2787.9 ± 317.5	30	3828.1 ± 577.0	-302.6	0.862	0.827
P-value[d]		0.541		0.709			
sE-selectin							
Week 0	31	3.43 ± 0.31	30	4.22 ± 0.52			
Week 8	29	3.40 ± 0.29	29	4.91 ± 0.44	0.70	0.237	0.185
P-value[d]		0.612		0.026			
sVCAM-1							
Week 0	32	624.8 ± 17.5	32	659.8 ± 15.4			
Week 8	33	618.2 ± 19.6	31	628.7 ± 14.9	-19.5	0.254	0.363
P-value[d]		0.585		0.030			

[a] Mean ± SE (all such values). PO, Perilla oil; SAA, serum amyloid A; sE-selectin, soluble E-selectin; sVCAM-1, soluble vascular cell adhesion molecule-1. Number of participants used for analysis after outlier removal based on available data.

[b] Linear mixed-effect model adjusted with alcohol intake for 8 weeks was used to compare the changes for 8 weeks between the groups.

[c] Linear mixed-effect model was used to compare the changes for 8 weeks between the groups.

[d] Linear mixed-effect model adjusted with alcohol intake for 8 weeks was used to compare the changes for 8 weeks within each group.

Table S10. Effects of PO on postprandial biomarkers[a]

Variables	*N*	Placebo	*N*	PO	Estimate[b]	*P*-value[b]	*P*-value[c]	*P*-value[d]	*P*-value[e]
C-EPI CT (sec)									
0 min	30	137.7 ± 5.3	31	151.1 ± 8.5					
120 min	32	127.5 ± 3.8	31	129.6 ± 5.1	-10.7	0.144		0.143	
240 min	31	125.1 ± 4.2	32	133.6 ± 6.4	-6.9	0.345		0.346	
480 min	30	118.8 ± 3.5	30	127.9 ± 6.4	-4.0	0.587	0.512	0.580	0.511
AUC (sec*min)					**Estimate[f]**	***P*-value[f]**	***P*-value[g]**		
0-480 min	30	61250.0 ± 1805.9	31	64383.9 ± 2817.0	3518.7	0.308	0.356		
C-ADP CT (sec)									
0 min	32	96.1 ± 3.2	32	106.2 ± 3.9					
120 min	30	94.9 ± 2.6	32	97.4 ± 3.5	-8.1	0.057		0.056	
240 min	31	93.7 ± 2.8	31	96.5 ± 3.7	-7.1	0.097		0.097	
480 min	31	89.5 ± 3.3	31	94.1 ± 2.9	-4.0	0.352	0.220	0.353	0.218
AUC (sec*min)					**Estimate[f]**	***P*-value[f]**	***P*-value[g]**		
0-480 min	30	45160.0 ± 1198.0	30	46484.0 ± 1516.2	1611.4	0.409	0.496		
PT (sec)									
0 min	32	11.18 ± 0.08	32	11.18 ± 0.08					
120 min	32	11.32 ± 0.08	32	11.35 ± 0.08	0.03	0.702		0.702	
240 min	32	11.02 ± 0.09	31	11.14 ± 0.08	0.08	0.256		0.256	
480 min	32	10.87 ± 0.08	32	10.95 ± 0.07	0.07	0.329	0.642	0.329	0.642
AUC (sec*min)					**Estimate[f]**	***P*-value[f]**	***P*-value[g]**		
0-480 min	32	5315.8 ± 38.4	31	5361.1 ± 32.6	48.1	0.350	0.374		

Table S10. Effects of PO on postprandial biomarkers (continued)[a]

Variables	*N*	Placebo	*N*	PO	Estimate[b]	*P*-value[b]	*P*-value[c]	*P*-value[d]	*P*-value[e]
aPTT (sec) aPTT (sec)									
0 min	33	27.42 ± 0.34	32	27.42 ± 0.28					
120 min	33	27.55 ± 0.35	32	27.56 ± 0.26	0.01	0.957		0.957	
240 min	31	27.32 ± 0.28	32	27.49 ± 0.28	0.18	0.333		0.333	
480 min	33	27.74 ± 0.33	32	27.82 ± 0.26	0.07	0.697	0.757	0.697	0.756
AUC (sec*min)					**Estimate[f]**	***P*-value[f]**	***P*-value[g]**		
0-480 min	31	13201.0 ± 132.0	32	13237.7 ± 125.5	22.3	0.904	0.841		
Fibrinogen (mg/dL)									
0 min	31	220.7 ± 8.2	32	231.0 ± 6.9					
120 min	32	209.8 ± 8.5	32	216.9 ± 8.5	1.8	0.923		0.924	
240 min	32	223.6 ± 9.7	31	224.3 ± 7.9	-2.4	0.739		0.738	
480 min	33	229.2 ± 9.7	31	226.4 ± 6.4	-2.2	0.956	0.976	0.953	0.976
AUC (mg/dL*min)					**Estimate[f]**	***P*-value[f]**	***P*-value[g]**		
0-480 min	32	106452.9 ± 4148.8	32	110261.3 ± 4241.1	3759.3	0.515	0.506		
D-dimer (ng/mL)									
0 min	32	1024.8 ± 108.3	30	887.0 ± 85.1					
120 min	33	1039.3 ± 128.7	28	917.8 ± 96.6	-4.8	0.838		0.838	
240 min	33	1114.5 ± 131.8	29	814.0 ± 60.8	-115.6	0.245		0.245	
480 min	31	1080.3 ± 106.0	29	920.2 ± 66.1	-110.3	0.201	0.314	0.202	0.314
AUC (ng/mL*min)					**Estimate[f]**	***P*-value[f]**	***P*-value[g]**		
0-480 min	31	481462.1 ± 45516.1	29	419360.4 ± 34406.7	-60133.0	0.438	0.408		

Table S10. Effects of PO on postprandial biomarkers (continued)[a]

Variables	*N*	Placebo	*N*	PO	Estimate[b]	*P*-value[b]	*P*-value[c]	*P*-value[d]	*P*-value[e]
TG (mg/dL)									
0 min	31	113.3 ± 10.3	31	121.4 ± 10.2					
120 min	33	143.8 ± 15.0	32	157.5 ± 13.0	8.1	0.315		0.314	
240 min	33	218.2 ± 21.6	30	194.3 ± 14.5	-24.9	0.521		0.521	
480 min	31	133.2 ± 12.0	28	129.9 ± 10.2	0.3	0.943	0.412	0.941	0.411
AUC (mg/dL*min)					**Estimate[f]**	***P*-value[f]**	***P*-value[g]**		
0-480 min	33	81707.3 ± 7388.9	29	75343.5 ± 5457.7	-6991.8	0.636	0.636		
SAA (ng/mL)									
0 min	29	2787.9 ± 317.5	30	3828.1 ± 577.0					
120 min	29	2625.5 ± 296.2	30	3799.2 ± 549.2	133.6	0.442		0.442	
240 min	30	2827.6 ± 371.3	30	3819.1 ± 564.3	129.2	0.333		0.334	
480 min	29	2581.1 ± 320.8	30	3749.2 ± 578.1	204.0	0.365	0.751	0.366	0.751
AUC (ng/mL *min)					**Estimate[f]**	***P*-value[f]**	***P*-value[g]**		
0-480 min	29	1290043.8 ± 158743.7	30	1822926.9 ± 268927.9	533011.0	0.342	0.338		
sE-selectin (ng/mL)									
0 min	29	3.40 ± 0.29	29	4.91 ± 0.44					
120 min	32	4.16 ± 0.39	29	5.21 ± 0.45	-0.3	0.549		0.547	
240 min	31	3.87 ± 0.33	29	5.19 ± 0.52	0.0	0.989		0.985	
480 min	31	4.30 ± 0.40	28	4.57 ± 0.41	-0.8	0.089	0.272	0.088	0.270
AUC (ng/mL *min)					**Estimate[f]**	***P*-value[f]**	***P*-value[g]**		
0-480 min	30	2071.3 ± 176.6	29	2445.3 ± 218.9	334.1	0.262	0.205		

Table S10. Effects of PO on postprandial biomarkers (continued)[a]

Variables	*N*	Placebo	*N*	PO	Estimate[b]	*P*-value[b]	*P*-value[c]	*P*-value[d]	*P*-value[e]
sVCAM-1 (ng/mL)									
0 min	33	618.20 ± 19.60	31	628.70 ± 628.70					
120 min	33	608.60 ± 20.30	32	611.10 ± 611.10	-13.7	0.309		0.310	
240 min	33	617.20 ± 20.80	31	615.40 ± 615.40	-12.3	0.362		0.362	
480 min	30	614.10 ± 16.30	31	623.20 ± 623.20	-9.5	0.491	0.738	0.491	0.739
AUC (ng/mL *min)					**Estimate[f]**	***P*-value[f]**	***P*-value[g]**		
0-480 min	31	288026.5 ± 8124.0	31	295819.1 ± 7236.9	7356.2	0.504	0.477		

[a] Mean ± SE (all such values); PO, Perilla oil; C-EPI CT, collagen-epinephrine closure time; C-ADP CT, collagen-adenosine diphosphate closure time; PT, prothrombin time; aPTT, activated partial thromboplastin time; TG, triglyceride; SAA, serum amyloid A; sE-selectin, soluble E-selectin; sVCAM-1, soluble-vascular cell adhesion molecule-1; AUC, area under the curve. Number of participants used for analysis after outlier removal based on available data.

[b] Linear mixed-effect model adjusted with alcohol intake at week 8 was used to compare the differences between groups

[c] Linear mixed-effect model adjusted with alcohol intake at week 8 was used to analyze the effects of group*time.

[d] Linear mixed-effect model was used to compare the differences between groups

[e] Linear mixed-effect was used to analyze the effects of group*time.

[f] Linear mixed-effect model adjusted with alcohol intake at week 8 was used to analyze the effects of group.

[g] Linear mixed-effect model was used to analyze the effects of group.

Table S11. Vital signs[a]

Variables	Placebo (*N*=33)	PO (*N*=32)	*P*-value[b]
Pulse rate (beats/min)			
Week 0	81.8 ± 1.9	80.4 ± 2.1	
Week 4	79.0 ± 1.9	80.4 ± 1.9	
Week 8	81.2 ± 2.2	83.0 ± 2.2	0.480
P-value[c]	0.776	0.198	
SBP (mmHg)			
Week 0	130.5 ± 1.8	134.2 ± 2.1	
Week 4	128.8 ± 2.4	133.8 ± 1.6	
Week 8	124.8 ± 2.3	129.7 ± 2.3	0.900
P-value[c]	0.008	0.037	
DBP (mmHg)			
Week 0	78.8 ± 1.6	78.6 ± 1.6	
Week 4	78.1 ± 2.0	82.3 ± 1.6	
Week 8	73.9 ± 1.4	79.3 ± 2.0	0.075
P-value[c]	0.007	0.695	
Body temperature (℃)			
Week 0	35.9 ± 0.1	36.0 ± 0.1	
Week 4	36.3 ± 0.1	36.3 ± 0.1	
Week 8	36.1 ± 0.1	36.1 ± 0.1	0.163
P-value[c]	0.003	0.513	

[a] Mean ± SE (all such values). PO, Perilla oil; SBP, systolic blood pressure; DBP, diastolic blood pressure.

[b] Linear mixed-effect model was used to analyze the effects of group*time.

[c] Linear mixed-effect model was used to analyze the difference within each group.

Table S12. Hematological test[a]

Variables	Placebo (*N*=33)	PO (*N*=32)	*P*-value[b]
WBC (10^3/μL)			
Week 0	5.8 ± 0.3	5.8 ± 0.3	
Week 8	6.2 ± 0.3	6.1 ± 0.3	0.671
P-value[c]	0.068	0.222	
RBC (10^6/μL)			
Week 0	4.9 ± 0.1	4.9 ± 0.1	
Week 8	4.8 ± 0.1	4.9 ± 0.1	0.460
P-value[c]	0.596	0.606	
Hb (g/dL)			
Week 0	14.5 ± 0.2	15.1 ± 0.2	
Week 8	14.3 ± 0.2	15.0 ± 0.2	0.527
P-value[c]	0.122	0.517	
Hct (%)			
Week 0	43.1 ± 0.7	44.0 ± 0.6	
Week 8	42.6 ± 0.7	43.8 ± 0.6	0.600
P-value[c]	0.170	0.532	
PLT (10^3/μL)			
Week 0	280.2 ± 11.3	275.4 ± 10.6	
Week 8	278.5 ± 11.3	276.5 ± 11.4	0.768
P-value[c]	0.694	0.979	
MCV (fL)			
Week 0	88.8 ± 0.7	90.1 ± 0.7	
Week 8	88.1 ± 0.6	89.3 ± 0.7	0.589
P-value[c]	0.006	0.001	
MCH (pg)			
Week 0	29.9 ± 0.3	30.9 ± 0.3	
Week 8	29.6 ± 0.3	30.6 ± 0.3	0.751
P-value[c]	0.027	0.009	
MCHC (g/dL)			
Week 0	33.6 ± 0.2	34.2 ± 0.2	
Week 8	33.6 ± 0.2	34.2 ± 0.2	0.965
P-value[c]	0.862	0.912	

Table S12. Hematological test[a] (continued)

Variables	Placebo (*N*=33)	PO (*N*=32)	*P*-value[b]
Neutrophils (%)			
Week 0	56.5 ± 1.6	52.9 ± 1.7	
Week 8	55.7 ± 1.6	54.1 ± 1.5	0.283
P-value[c]	0.609	0.314	
Lymphocytes (%)			
Week 0	32.2 ± 1.4	35.0 ± 1.5	
Week 8	32.9 ± 1.5	34.4 ± 1.4	0.517
P-value[c]	0.640	0.654	
Monocytes (%)			
Week 0	7.2 ± 0.3	7.6 ± 0.3	
Week 8	7.3 ± 0.4	7.5 ± 0.3	0.628
P-value[c]	0.924	0.558	
Eosinophils (%)			
Week 0	3.4 ± 0.4	3.8 ± 0.5	
Week 8	3.4 ± 0.5	3.3 ± 0.4	0.543
P-value[c]	0.858	0.499	
Basophils (%)			
Week 0	0.8 ± 0.1	0.7 ± 0.1	
Week 8	0.8 ± 0.1	0.7 ± 0.1	0.846
P-value[c]	0.722	0.937	

[a] Mean ± SE (all such values). PO; Perilla oil; WBC, white blood cell; RBC, red blood cell; Hb, hemoglobin; Hct, hematocrit; PLT, platelet count; MCV, mean corpuscular volume; MCH, mean corpuscular. hemoglobin; MCHC, mean corpuscular hemoglobin concentration.
[b] Linear mixed-effect model was used to analyze the effects of group, time, and group*time.
[c] Linear mixed-effect model was used to analyze the difference within each group.

Table S13. Blood chemistry test[a]

Variables	Placebo (*N*=33)	PO (*N*=32)	*P*-value[b]
ALT (IU/L)			
Week 0	23.6 ± 2.5	24.0 ± 2.9	
Week 8	24.5 ± 2.5	25.3 ± 2.7	0.782
P-value[c]	0.681	0.428	
AST (IU/L)			
Week 0	19.7 ± 0.8	21.2 ± 1.3	
Week 8	22.4 ± 1.1	22.6 ± 1.3	0.507
P-value[c]	0.022	0.173	
ALP (U/L)			
Week 0	72.5 ± 3.2	75.3 ± 3.7	
Week 8	72.2 ± 3.2	74.3 ± 3.3	0.899
P-value[c]	0.795	0.665	
BUN (mg/dL)			
Week 0	12.3 ± 0.5	13.8 ± 0.7	
Week 8	13.5 ± 0.5	14.5 ± 0.6	0.425
P-value[c]	0.003	0.056	
Creatinine (mg/dL)			
Week 0	0.9 ± 0.0	0.9 ± 0.0	
Week 8	0.9 ± 0.0	0.9 ± 0.0	0.565
P-value[c]	0.834	0.312	
Total bilirubin (mg/dL)			
Week 0	0.7 ± 0.1	0.7 ± 0.1	
Week 8	0.6 ± 0.0	0.7 ± 0.1	0.342
P-value[c]	0.211	0.920	
Uric acid (mg/dL)			
Week 0	5.7 ± 0.2	6.0 ± 0.2	
Week 8	5.9 ± 0.3	6.1 ± 0.2	0.501
P-value[c]	0.092	0.466	
Total protein (g/dL)			
Week 0	7.5 ± 0.1	7.4 ± 0.1	
Week 8	7.4 ± 0.1	7.3 ± 0.1	0.276
P-value[c]	0.031	0.528	
Albumin (g/dL)			
Week 0	4.6 ± 0.0	4.5 ± 0.0	
Week 8	4.6 ± 0.1	4.6 ± 0.0	0.358
P-value[c]	0.650	0.399	
Glucose (mg/dL)			
Week 0	96.7 ± 1.6	97.8 ± 1.5	
Week 8	95.3 ± 1.2	96.8 ± 1.5	0.791
P-value[c]	0.251	0.446	

Table S13. Blood chemistry test[a] (continued)

Variables	Placebo (*N*=33)	PO (*N*=32)	*P*-value[b]
eGFR (mL/min/1.73m^2)			
Week 0	102.1 ± 2.4	100.0 ± 2.5	
Week 8	102.1 ± 2.2	99.1 ± 2.1	0.738
P-value[c]	0.968	0.611	

[a] Mean ± SE (all such values). PO; Perilla oil, ALT, alanine aminotransferase; AST, aspartate aminotransferase; ALP, alkaline phosphatase; BUN, blood urea nitrogen; eGFR, estimated glomerular filtration rate.
[b] Linear mixed-effect model was used to analyze the effects of group, time, and group*time.
[c] Linear mixed-effect model was used to analyze the difference within each group.

Table S14. Urine test[a]

Variables	Placebo		PO		*P*-value[b]
	NCS	CS	NCS	CS	
pH					
Week 0	33	0	32	0	-
Week 8	33	0	32	0	-
P-value[c]	-		-		
Protein					
Week 0	33	0	32	0	-
Week 8	33	0	32	0	-
P-value[c]	-		-		
Glucose					
Week 0	33	0	32	0	-
Week 8	33	0	32	0	-
P-value[c]	-		-		
Ketone					
Week 0	33	0	32	0	-
Week 8	33	0	32	0	-
P-value[c]	-		-		
Blood					
Week 0	33	0	32	0	-
Week 8	33	0	32	0	-
P-value[c]	-		-		
Urobilinogen					
Week 0	33	0	32	0	-
Week 8	33	0	32	0	-
P-value[c]	-		-		
Bilirubin					
Week 0	33	0	32	0	-
Week 8	33	0	32	0	-
P-value[c]	-		-		
Nitrate					
Week 0	33	0	32	0	-
Week 8	33	0	32	0	-
P-value[c]	-		-		

Table S14. Urine test[a] (continued)

Variables	Placebo		PO		*P*-value[b]
	NCS	CS	NCS	CS	
Leukocyte					
Week 0	33	0	32	0	-
Week 8	33	0	32	0	-
P-value[c]	-		-		
Specific gravity					
Week 0	33	0	32	0	-
Week 8	33	0	32	0	-
P-value[c]	-		-		

[a] Number of subjects. PO, Perilla oil; NCS, not clinically significant; CS, clinically significant.

[b] Fisher's exact test was used to compare the difference between the groups and p-values were not computed because CS column contains all zeros.

[c] McNemar's test was used to compare the difference within each group and p-values were not computed because CS column contains all zeros.

Table S15. Normal range for hematological test, blood chemistry test and urine test[a]

Variables	Normal range
Hematological test	
WBC (10^3/μL)	3.7 - 9.8
RBC (10^6/μL)	M: 4.2-5.8 / F: 3.7-5.2
Hb (g/dL)	M: 13.0-17.0 / F: 11.0-16.0
Hct (%)	M: 40-51 / F: 33-48
PLT (10^3/μL)	150 - 380
MCV (fL)	85 - 100
MCH (pg)	26 - 34
MCHC (g/dL)	31 - 34
Neutrophils (%)	40 - 75
Lymphocytes (%)	21 - 50
Monocytes (%)	4 - 10
Eosinophils (%)	0 - 7
Basophils (%)	0 - 2
Blood chemistry test	
ALT (IU/L)	0 - 41
AST (IU/L)	0 - 40
ALP (IU/L)	35 129
BUN (mg/dL)	5 - 20
Creatine (mg/dL)	M: 0.7-1.2 / W: 0.5-0.9
Total bilirubin (mg/dL)	0 - 1.2
Uric acid (mg/dL)	M: 3.6-8.6 / W: 2.4-6.1
Total protein (g/dL)	6.5 - 8.0
Albumin (g/dL)	3.5 - 5.2
Glucose (mg/dL)	74 - 109
eGFR (mL/min/1.73m^2)	>= 60
Urine test	
pH	5.5 - 7.5
Protein	Negative
Glucose	Negative
Ketone	Negative
Blood	Negative
Urobilinogen (mg/dL)	0 - 1.0
Bilirubin	Negative
Nitrate	Negative
Leukocyte	Negative
Specific gravity	1.010 - 1.025

[a] Normal ranges are from CHA Bundang Medical Center. WBC, white blood cell; RBC, red blood cell; Hb, hemoglobin; Hct, hematocrit; PLT, platelet; MCV, mean corpuscular volume; MCH, mean corpuscular hemoglobin; MCHC, mean corpuscular hemoglobin concentration; ALT, alanine aminotransferase; AST, aspartate aminotransferase; ALP, alkaline phosphatase; BUN, blood urea nitrogen; eGFR, estimated glomerular filtration rate.

Table S16. Electrocardiogram[a]

(unit: msec)

	Placebo (*N*=33)	**PO (*N*=32)**	***P*-value[b]**
Week 0	65.9 ± 1.6	64.6 ± 1.6	
Week 8	64.4 ± 1.4	63.5 ± 1.6	0.889
P-value[c]	0.347	0.464	

[a] Mean ± SE (all such values). msec, millisecond; PO, Perilla oil.

[b] Linear mixed-effect model was used to analyze the effects of group*time.

[c] Linear mixed-effect model was used to analyze the difference within each group.

Table S17. Adverse event[a]

Category	Placebo	PO	*P*-value[b]
Occurrence			
Adverse event	4 / 5	5 / 5	0.733
Severe adverse event	0 / 0	0 / 0	-
Type			
Diarrhea	1 / 1	0 / 0	1.000
Constipation	1 / 1	1 / 1	1.000
Nausea	1 / 1	0 / 0	1.000
Dyspepsia	0 / 0	1 / 1	0.492
Common cold	1 / 1	0 / 0	1.000
Alanine aminotransferase increased	0 / 0	1 / 1	0.492
Urticaria	1 / 1	0 / 0	1.000
Chest pain	0 / 0	1 / 1	0.492
Left tinnitus	0 / 0	1 / 1	0.492
Severity			
Mild	4 / 5	5 / 5	0.733
Moderate	0 / 0	0 / 0	-
Severe	0 / 0	0 / 0	-
Related to the investigational product			
Definitely related	0 / 0	0 / 0	-
Probably related	0 / 0	0 / 0	-
Possibly related	2 / 3	2 / 2	1.000
Probably not related	2 / 2	3 / 3	0.672
Definitely not related	0 / 0	0 / 0	-
Unknown	0 / 0	0 / 0	-

[a] Number of subjects / number of cases. PO, Perilla oil.

[b] Fisher′s exact test was used to compare the difference between the groups.