

Supplementary figures and tables to:

Haß *et al.*, Effects of exercise and omega-3-supplemented, high-protein diet on inflammatory markers in serum, on gene expression levels in PBMC, and after ex vivo whole-blood LPS stimulation in old adults

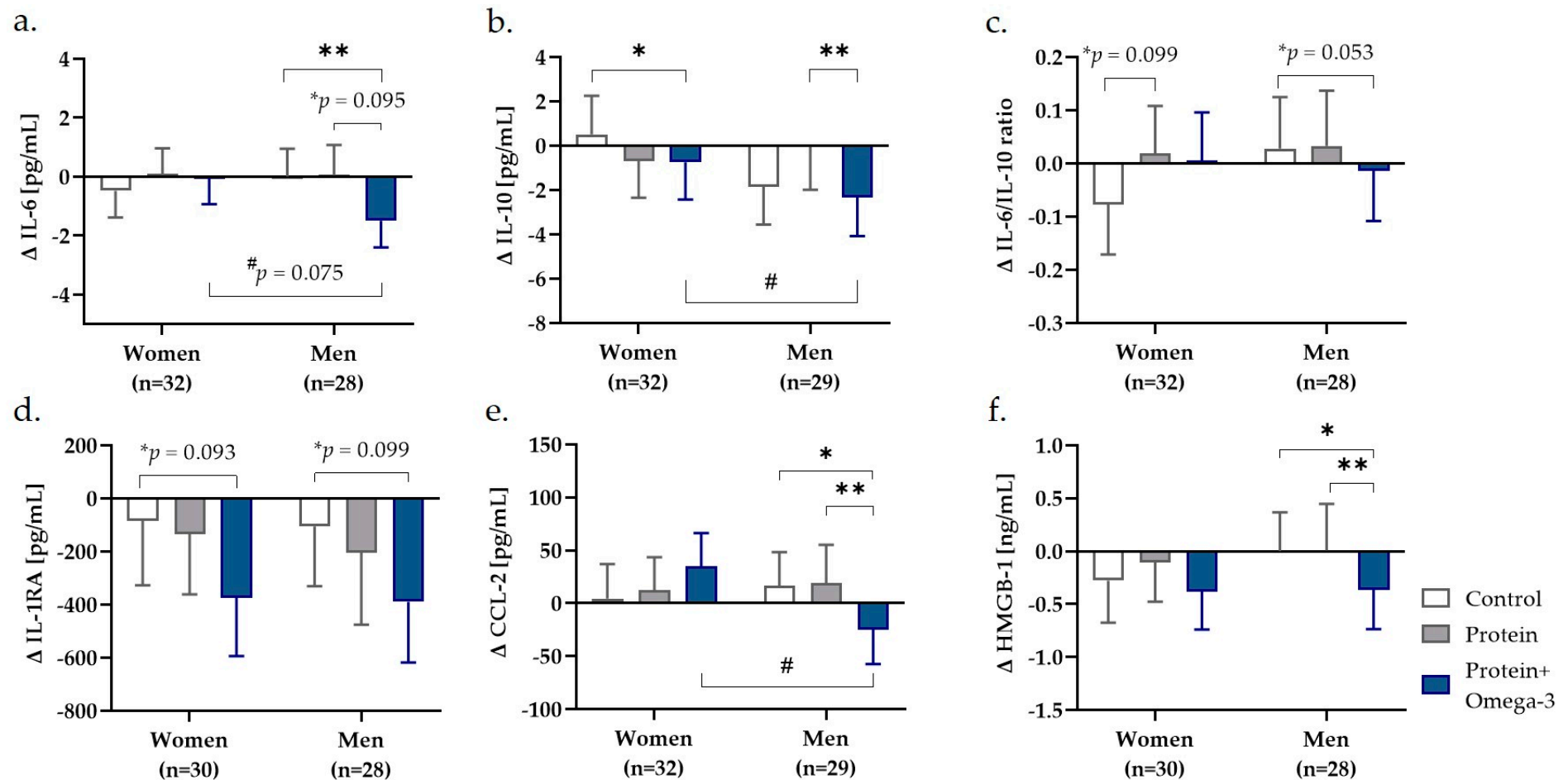


Figure S1. Delta (Δ) of serum concentrations of (a) IL-6, (b) IL-10, (c) IL-6/IL-10 ratio, (d) IL-1RA, (e) CCL-2, and (f) HMGB-1 presented as estimated mean with 95% confidence interval after eight weeks of control, high-protein (protein) or high-protein, omega-3-enriched (protein + omega-3) diet, displayed separately for women and men. Please note: Changes are shown as absolute values, but have been log-transformed before analyses. * $p < 0.05$, ** $p < 0.01$ obtained from generalized linear mixed models with random effects on subjects, adjusted for age and fat mass index to compare intervention effects within sex. # $p < 0.05$ obtained from comparisons of group-specific changes between sex with either unpaired t-test or Mann-Whitney U test. CCL-2 c-c motif chemokine ligand-2; HMGB-1 high-mobility group box-1; IL interleukin, RA receptor antagonist.

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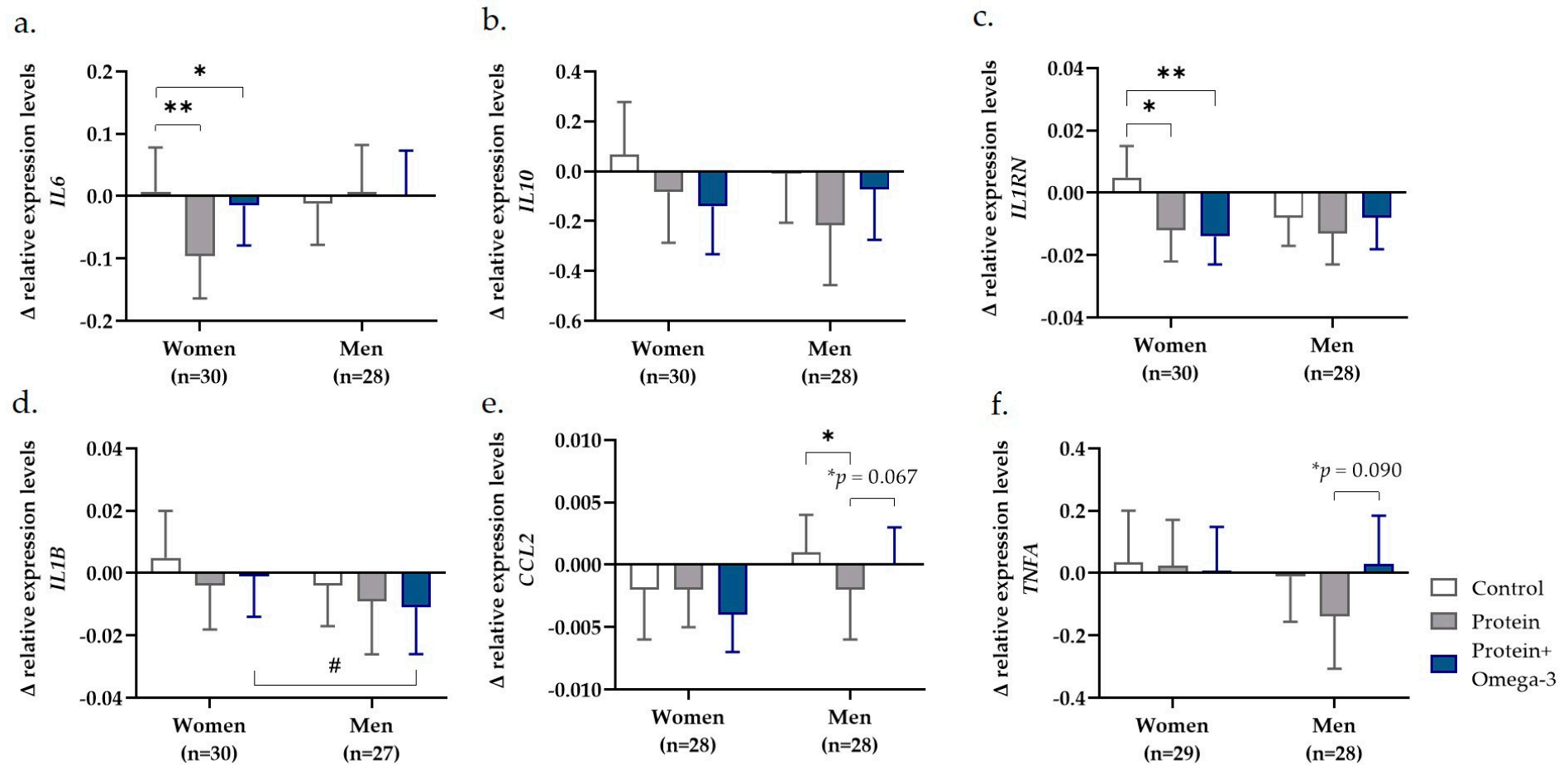


Figure S2. Delta (Δ) of gene expression levels of (a) *IL6*, (b) *IL10*, (c) *IL1RN*, (d) *IL1B*, (e) *CCL2*, and (f) *TNFA* presented as estimated mean with 95% confidence interval after eight weeks of control, high-protein (protein) or high-protein, omega-3-enriched (protein + omega-3) diet, displayed separately for women and men. Please note: Changes are shown as absolute values, but have been log-transformed before analyses. * $p < 0.05$, ** $p < 0.01$ obtained from generalized linear mixed models with random effects on subjects, adjusted for age and fat mass index to compare intervention effects within sex. # $p < 0.05$ obtained from comparisons of group-specific changes between sex with either unpaired t-test or Mann-Whitney U test. *CCL2* c-c motif chemokine ligand-2; *IL* interleukin, *B* beta, *RN* receptor antagonist; *TNFA* tumor necrosis factor- α .

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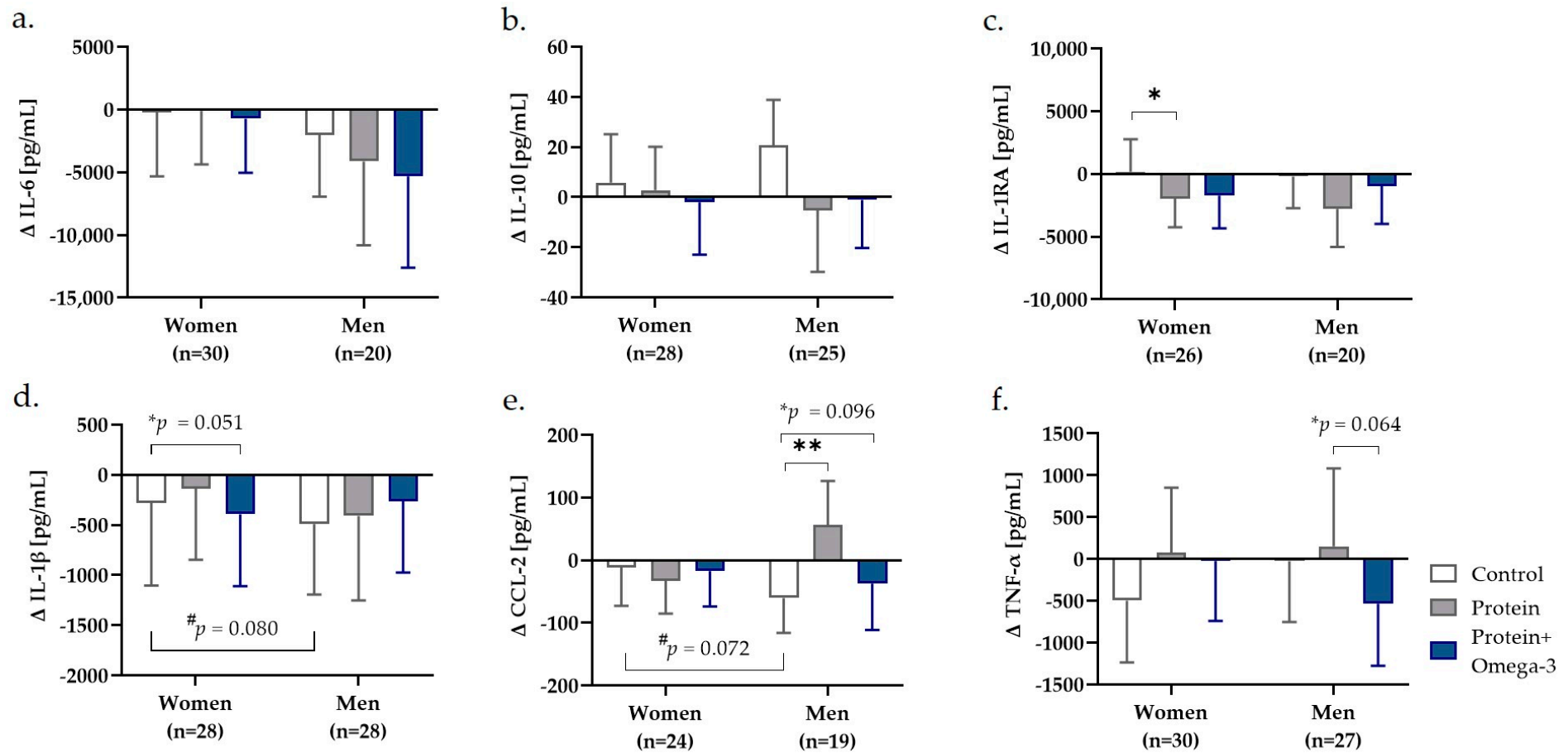


Figure S3. Delta (Δ) of ex vivo whole-blood LPS-stimulated concentrations of (a) IL-6, (b) IL-10, (c) IL-1RA, (d) IL-1 β , (e) CCL-2, and (f) TNF- α presented as estimated mean with 95% confidence interval after eight weeks of control, high-protein (protein) or high-protein, omega-3-enriched (protein + omega-3) diet, displayed separately for women and men. Please note: Changes are shown as absolute values, but were log-transformed before analyses. * $p < 0.05$, ** $p < 0.01$ obtained from generalized linear mixed models with random effects on subjects, adjusted for age and fat mass index to compare intervention effects within sex. # p obtained from comparisons of group-specific changes between sex with either unpaired t-test or Mann-Whitney U test. CCL-2 c-c motif chemokine ligand-2; IL interleukin, RA receptor antagonist; TNF- α tumor necrosis factor- α .

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Table S1. Key characteristics compared between women and men at baseline.

	Women (n=32)	Men (n=29)	p-value
Age [years]	68.0 ± 2.2	72.9 ± 5.9	0.003
Waist/height ratio	0.58 ± 0.05	0.61 ± 0.06	0.064
Body mass index [kg/m ²]	26.8 ± 2.3	28.1 ± 2.8	0.033
Fat mass index [kg/m ²]	10.1 ± 1.7	7.7 ± 2.1	<0.001
Serum concentrations			
IL-6 (pg/mL)	2.39 (1.07)	3.19 (1.93)	0.011
IL-10 (pg/mL)	7.75 (3.14)	9.43 (4.89)	0.038
IL-6/IL-10 ratio	0.37 ± 0.21	0.41 ± 0.23	0.474
IL-1RA (pg/mL)	868 ± 440	985 ± 432	0.428
HMGB-1 (ng/mL)	0.23 (0.77)	0.36 (1.28)	0.492
CCL-2 (pg/mL)	220 ± 75	232 ± 78	0.162
Gene expression levels in PBMC			
<i>IL6</i>	0.046 (0.048)	0.033 (0.046)	0.182
<i>IL10</i>	0.142 (0.155)	0.243 (0.224)	0.168
<i>IL1RN</i>	0.048 ± 0.011	0.052 ± 0.015	0.647
<i>IL1B</i>	0.035 (0.012)	0.042 (0.018)	0.214
<i>CCL2</i>	0.006 (0.004)	0.005 (0.004)	0.384
<i>TNFA</i>	0.614 ± 0.207	0.642 ± 0.237	0.811
LPS-induced concentrations in whole-blood cultures			
IL-6 (pg/mL)	6002 (3862)	12,060 (3200)	0.010
IL-10 (pg/mL)	4.08 ± 2.72	3.37 ± 2.38	0.573
IL-1RA (pg/mL)	5168 (4275)	6451 (3513)	0.249
IL-1β (pg/mL)	761 ± 262	1113 ± 387	0.008
CCL-2 (pg/mL)	96 (70)	153 (93)	0.225
TNF-α (pg/mL)	2333 ± 1020	3583 ± 1024	<0.001

Continuous variables are expressed as mean ± standard deviation or median (interquartile range). *p*-value obtained from either t-test or Mann-Whitney U test. CCL-2/CCL2 c-c motif chemokine ligand-2; IL interleukin, β/B beta, RA/RN receptor antagonist; HMGB-1 high-mobility group box-1; LPS lipopolysaccharide; PBMC peripheral blood mononuclear cell; TNF-α/TNFA tumor necrosis factor-α.

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Table S2. Primers used for gene expression analysis by qPCR.

Gene name		Primer sequence (5' → 3')
<i>B2M</i>	forward	CTA TCC AGC GTA CTC CAA AG
	reverse	AAA CCC AGA CAC ATA GCA AT
<i>CCL2</i>	forward	CAT AGC AGC CAC CTT CAT TCC
	reverse	TCT GCA CTG AGA TCT TCC TAT TGG
<i>IL6</i>	forward	AGC CCT GAG AAA GGA GAC ATG TA
	reverse	TCT GCC AGT GCC TCT TTG CT
<i>IL10</i>	forward	ACG GCG CTG TCA TCG ATT
	reverse	GGC ATT CTT CAC CTG CTC CA
<i>IL1B</i>	forward	GCA ATG AGG ATG ACT TGT TCT TTG
	reverse	CAG AGG TCC AGG TCC TGG AA
<i>IL1RN</i>	forward	ACC TCC CTC ATG GAC TGG TCT T
	reverse	CTT CCT CCC TCA TTC CAC CTT C
<i>TNFA</i>	forward	GGA CCT CTC TCT AAT CAG CCC TC
	reverse	TCG AGA AGA TGA TCT GAC TGC C

B2M beta-2-microglobulin (housekeeping gene); *CCL2* c-c motif chemokine ligand-2; *IL* interleukin, *B* beta, *RN* receptor antagonist; *TNFA* tumor necrosis factor- α .