

SUPPLEMENTARY MATERIAL

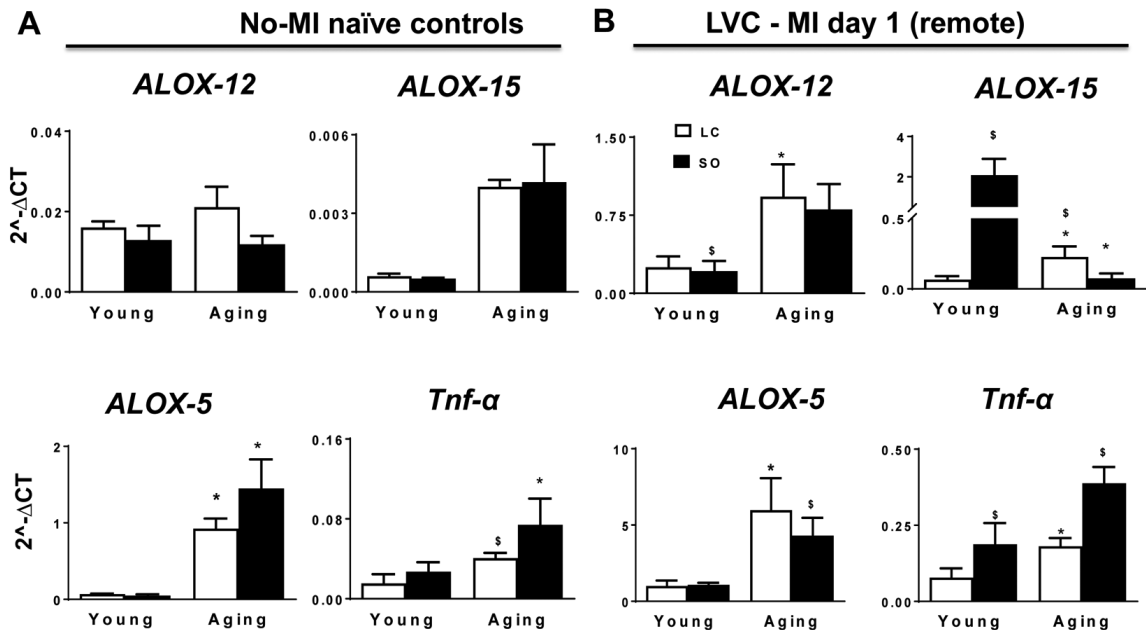


Figure S1. Excess omega-6 fatty acid influx impacted LOXs mRNA expression in young and aging mice. (A) mRNA expression of LOXs (5,12,15) and TNF-α in LV of no-MI naïve controls. (B) mRNA expression of LOXs (5,12,15) and TNF-α in remote myocardium (LVC) post-MI. *p<0.05 vs young-LC; § p<0.05 LC vs SO. Values are means ±SEM; n=4/group.

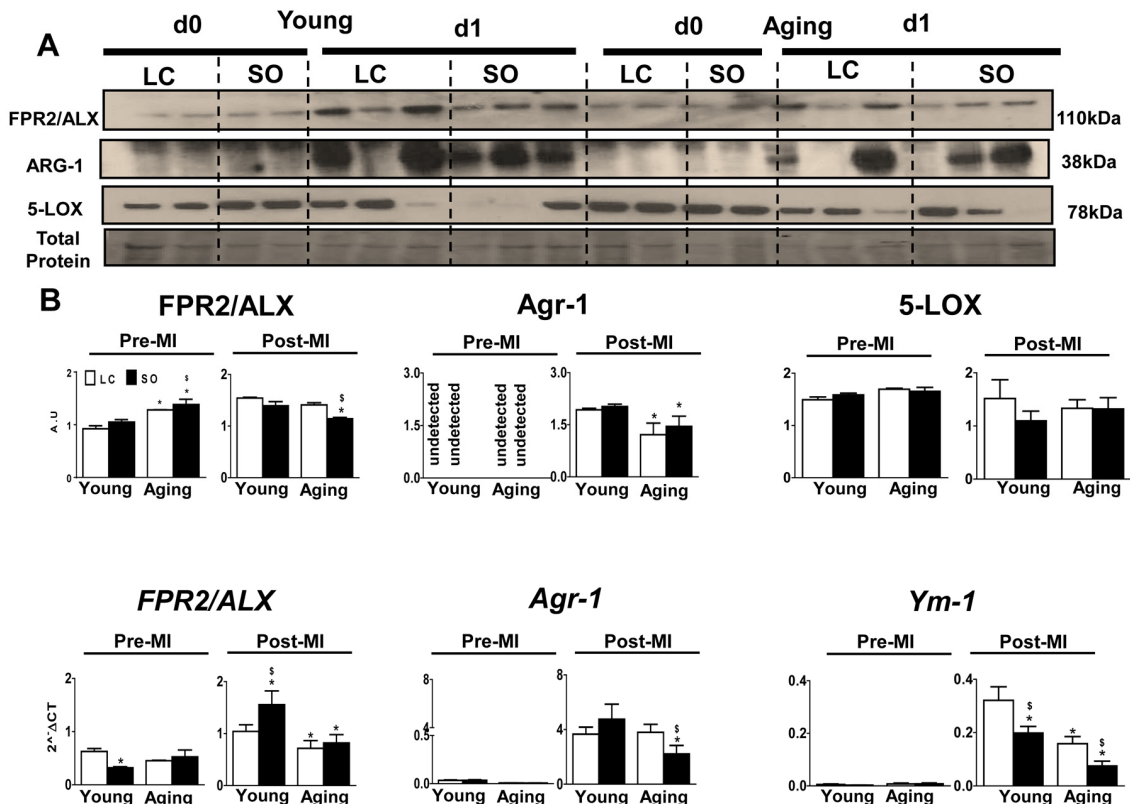


Figure S2. FPR2/ALX, 5-LOX and Arg-1 decreases post-MI due to excess intake of fatty acid during aging. (A) Immunoblot representing FPR-2/ALX, ARG-1 and 5-LOX protein expression at d0 control and post-MI d1 in young and aging mice with and without SO diet. (B) Pre- and post-MI densitometric analysis of mRNA expression for FPR2/ALX, ARG-1 and 5-LOX. Total protein is used as loading control; *p<0.05 vs young-LC; § p<0.05 LC vs SO. Values are means ±SEM; n=2 at d0, n=3-4 at d1/group.

MI day 1 EPA Metabololipidome

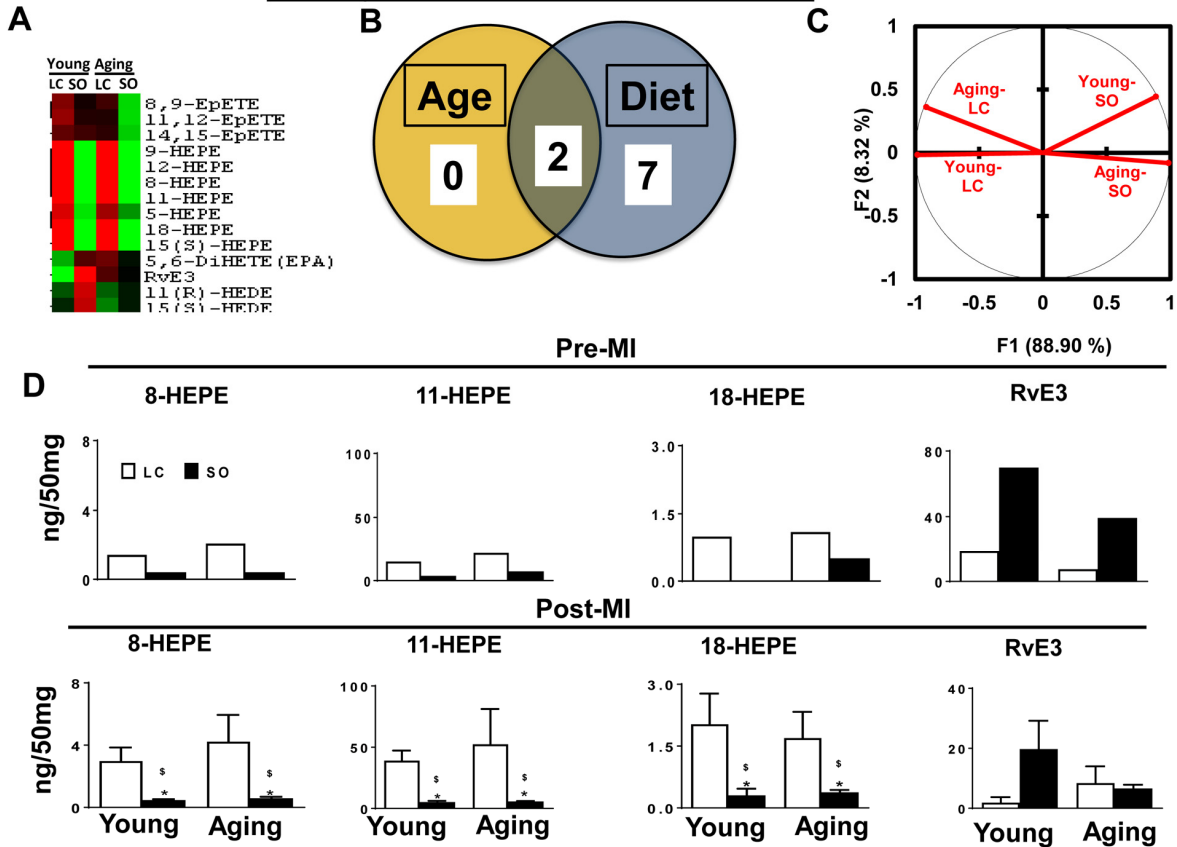


Figure S3. Post-MI dysregulation of EPA metabololipidome in response to age and excess omega-6 fatty acids intake. (A) Hierarchical cluster analysis of change in EPA metabolites due to young and aging, with and without SO diet. Color code bar representing change in expression from green (-1 lowest decrease) to red (+1 highest increase). (B) Venn diagram representing the number of EPA metabolites affected due to age (young and aging) and diet post-MI. (C) PCA analysis of EPA metabolites with respect to age and diet post-MI. (D) Bar graph representing change in EPA metabolite at pre-MI (No-MI) and d1 post-MI.

SUPPLEMENTARY TABLE

Please browse the Full Text version to see the data of **Supplementary Table 1**. Pre and post-MI lipid mediators levels in spleen (ng/ 50 mg spleen tissue).

MI day 1 DPA specialized bioactives

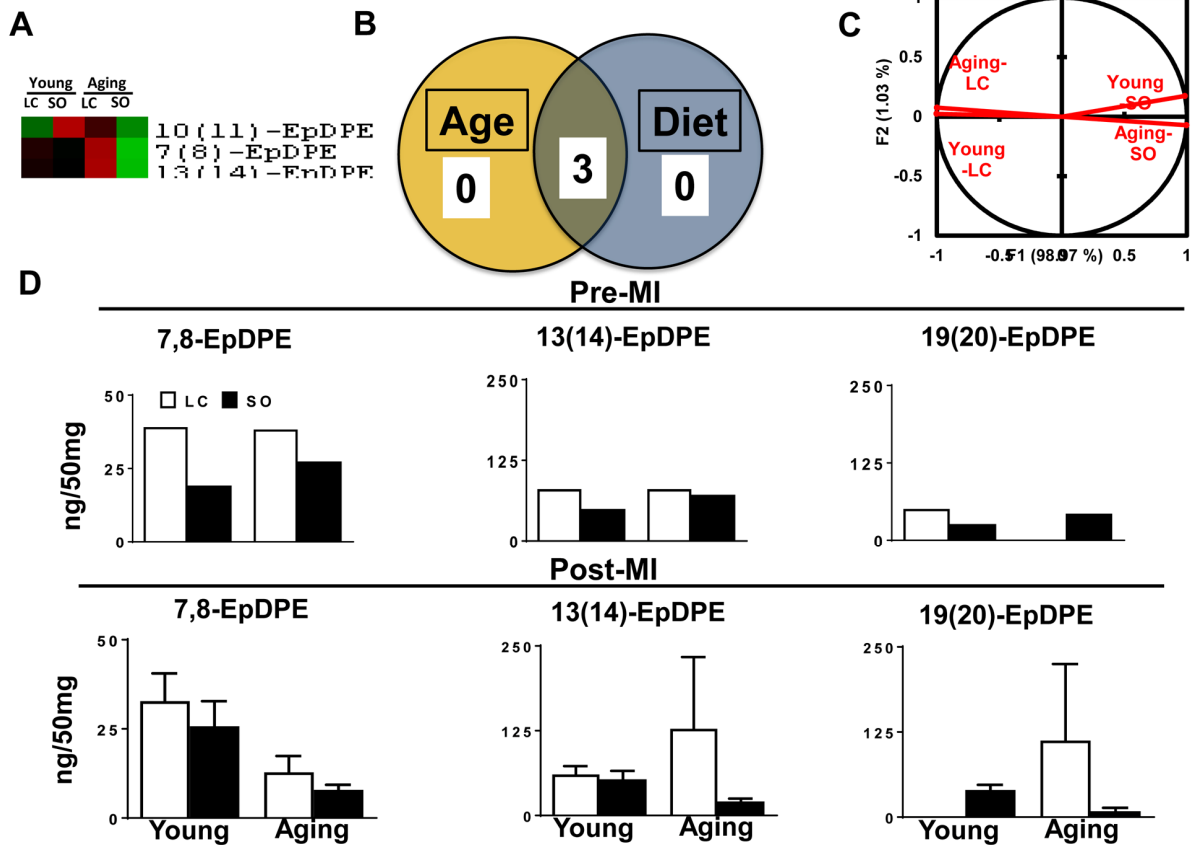


Figure S4. Post-MI changes in DPA metabololipidome profile in response to age and excess fatty acids influx. (A) Hierarchical cluster analysis of change in DPA metabolites due to young and aging, with and without SO diet. Color code bar representing change in expression from green (-1 lowest decrease) to red (+1 highest increase). (B) Venn diagram representing the number of DPA metabolites affected due to age (young and aging) and diet post-MI. (C) PCA analysis of DPA metabolites post-MI with respect to age and diet post-MI; n = 3 mice per group. (D) Bar graph representing change in DPA metabolite at pre-MI (No-MI) and d1 post-MI.

Post-MI day 1 AA-metabolites

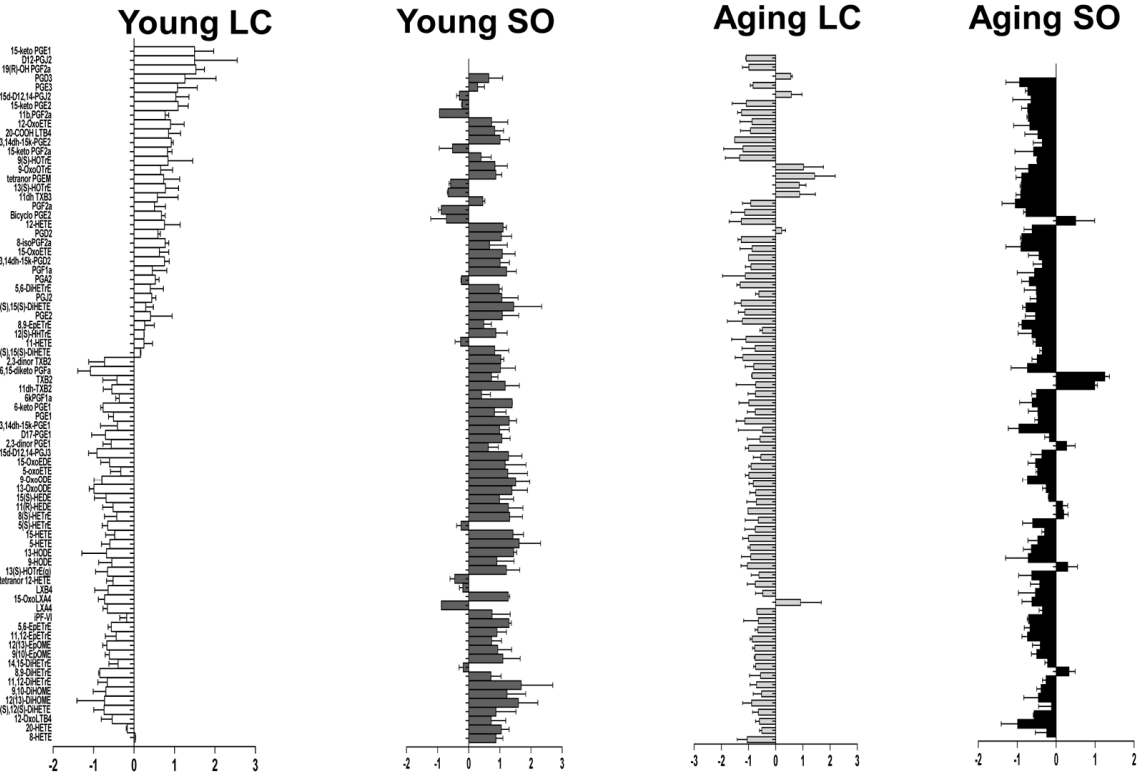


Figure S5. Z-score analysis of AA metabolites in young-LC, young-LC, aging-LC and aging-SO.

Post-MI day 1 DHA-bioactives

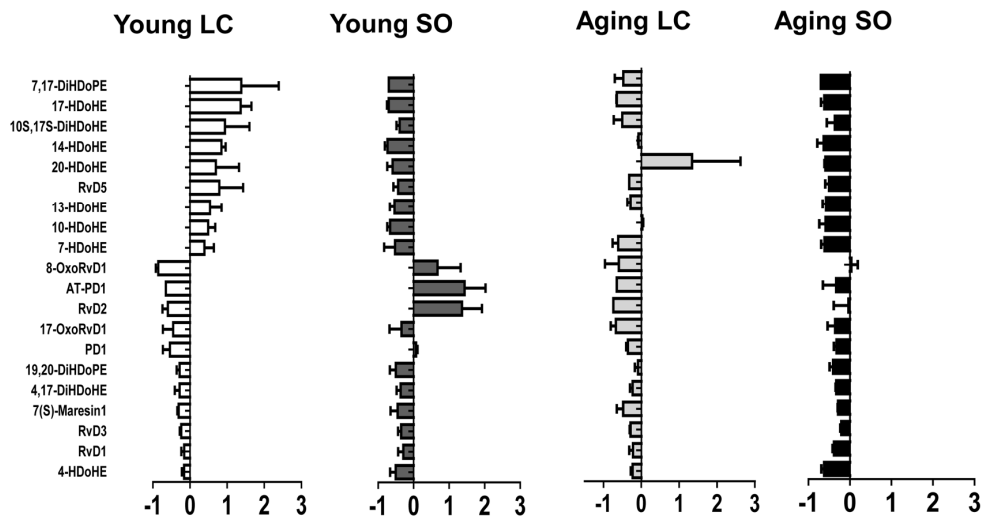


Figure S6. Z-score analysis of DHA metabolites in young-LC, young-LC, aging-LC and aging-SO.

Post-MI day 1 EPA-bioactives

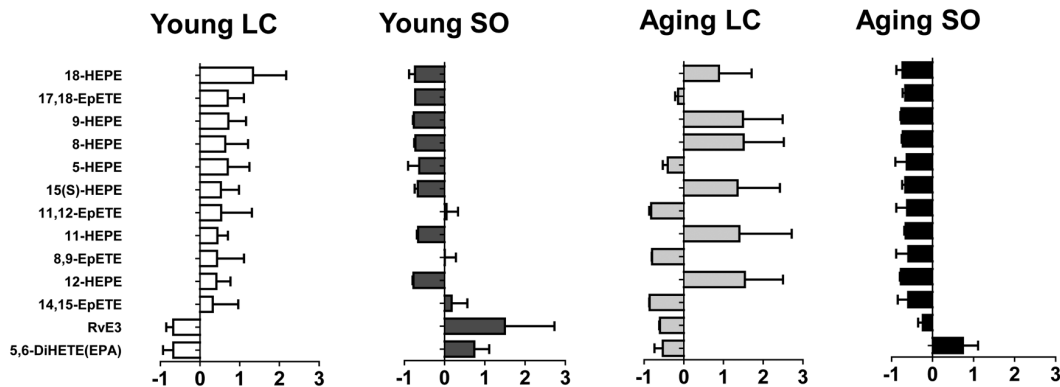


Figure S7. Z-score analysis of EPA metabolites in young-LC, young-LC, aging-LC and aging-SO.

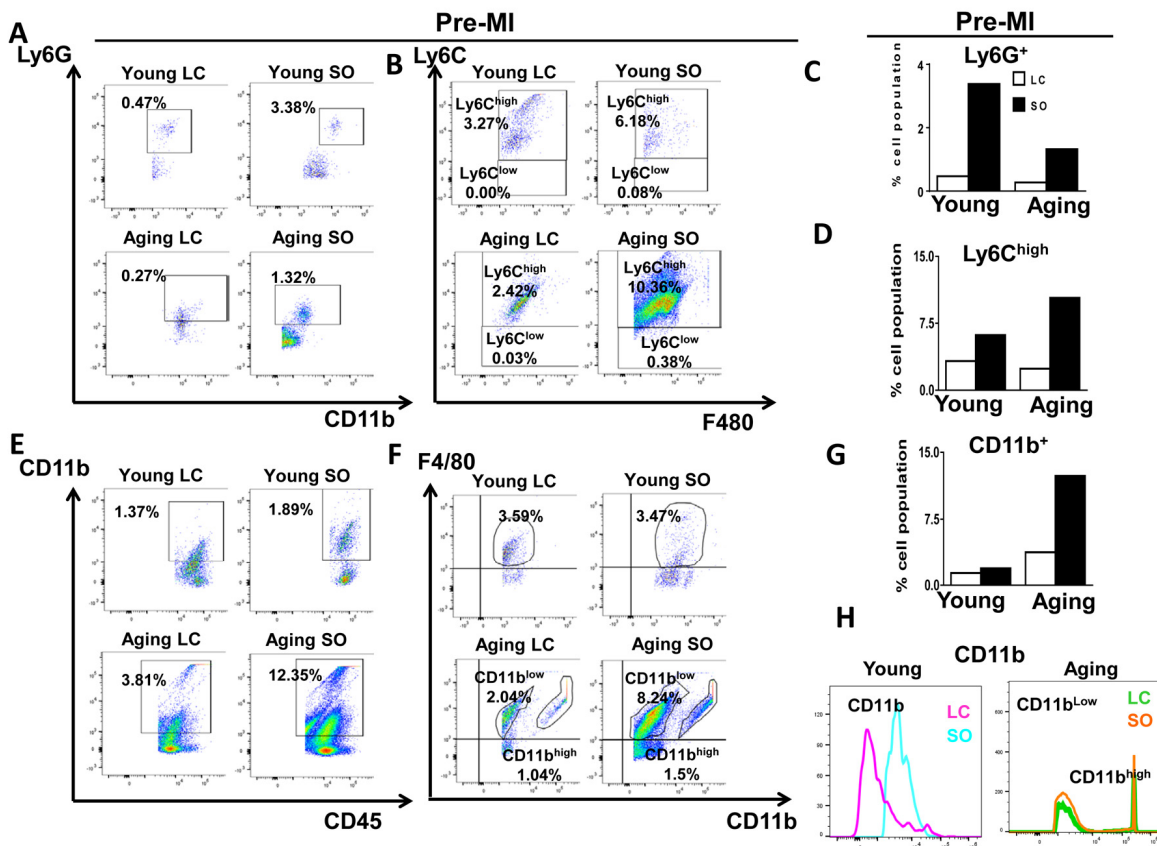


Figure S8. Excess intake of fatty acids increased F4/80⁺/Ly6Chigh and Ly6G⁺ population prior to MI. (A) Representative dot plots identifying the CD11b⁺ population in LV mononuclear cells isolated from LC and SO fed, young and old mice at d0 (NoMI). (B) Representative flow cytometry (FACS) dot plots showing Ly6Chigh in LV mononuclear cells isolated from LC and SO fed young and aging mice at d0 (No-MI). (C) Bar graphs representing percentage of Ly6G⁺ population in LV mononuclear cells at d0 (No-MI). (D) Bar graphs representing percentage of Ly6Chigh population in LV mononuclear cells at d0 (No MI). (E) Representative FACS dot plots showing CD45⁺/CD11b⁺ in LV mononuclear cells isolated from LC and SO fed young and mice at d0 (No-MI). (F) Representative FACS dot plots showing CD11b^{low}/F4/80^{high} and CD11b^{high}/F4/80^{high} in LV mononuclear cells isolated from LC and SO fed young mice at d0 (No-MI). (G) Bar graphs representing percentage of CD11b⁺ population in LV mononuclear cells at d0 (No-MI). (H) Histogram representing change in CD11b expression in young and aging mice at d0 (No-MI).

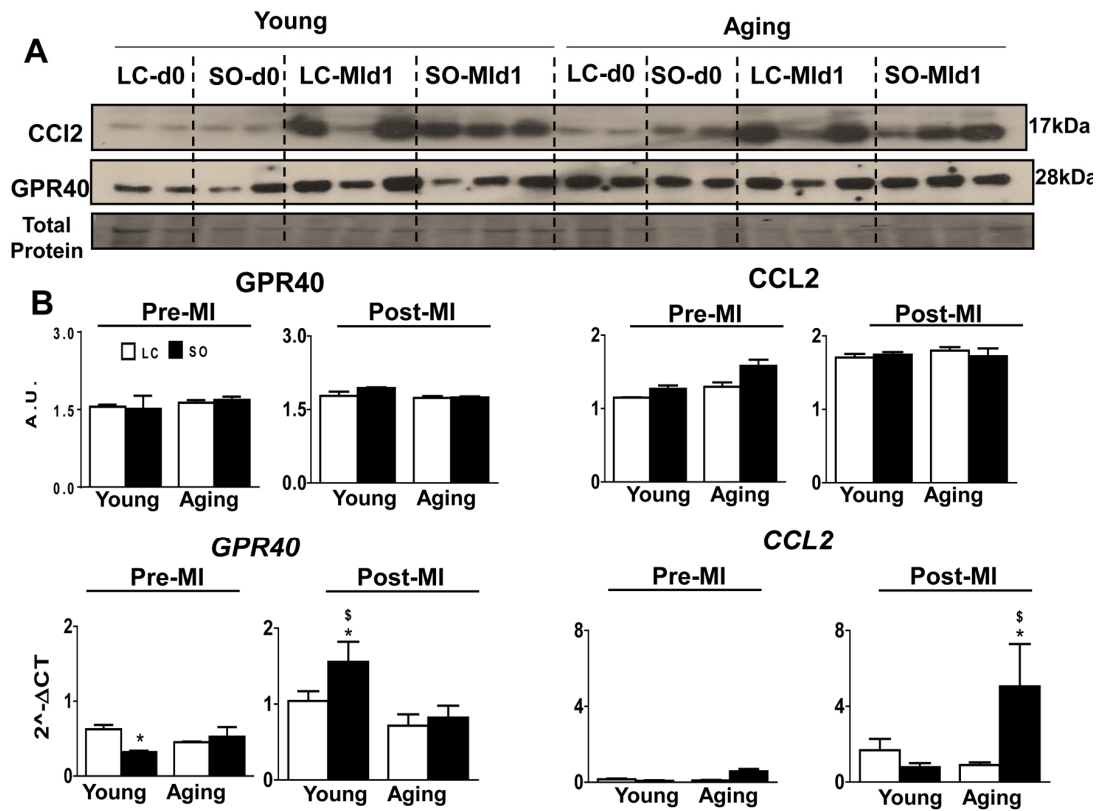


Figure S9. Altered expression of CCL2 and GPR40 post-MI in aging mice due to excess intake of omega-6 fatty acids in an infarcted LV. (A) Immunoblot representing CCL2 and GPR-40 protein expression at control (d0) and post-MI d1 in young and aging mice, with and without SO diet. (B) Pre- and post-MI densitometric analysis of CCL2 and GPR-40 immunoblots. Pre- and post-MI mRNA expression of CCL2 and GPR40 in LV. * $p < 0.05$ vs Young-LC; $\$ p < 0.05$ LC vs SO. Values are means \pm SEM; $n = 2-4$ /group.

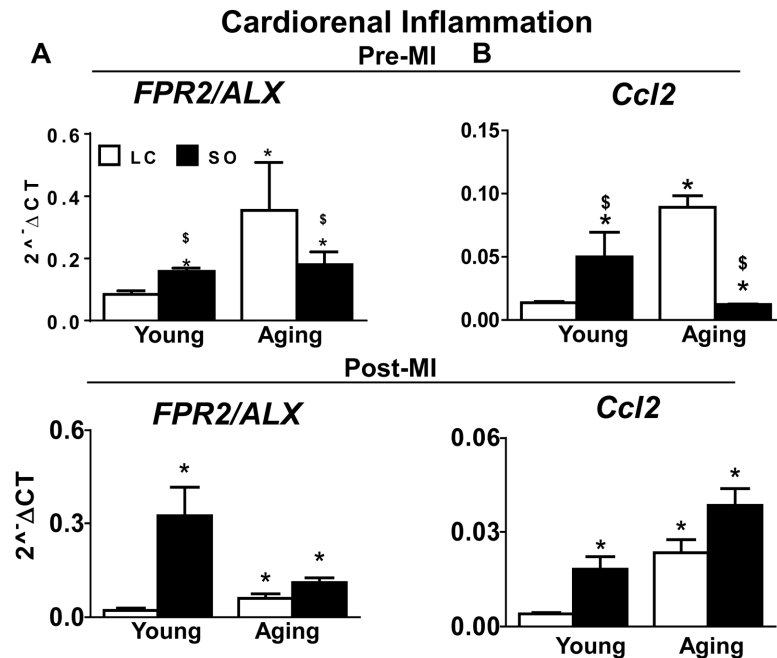


Figure S10. Effect of age and excess omega-6 fatty acids on pro-inflammatory gene expression in kidney post-MI d1. Pre- and post-MI mRNA expression of (A) FPR2/ALX in kidney (B) Ccl2 in kidney. * $p < 0.05$ vs young-LC; $\$ p < 0.05$ LC vs SO. Values are means \pm SEM; $n = 2-4$ /group.