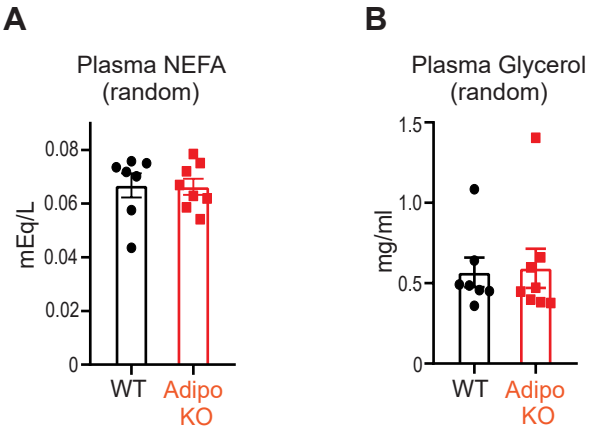
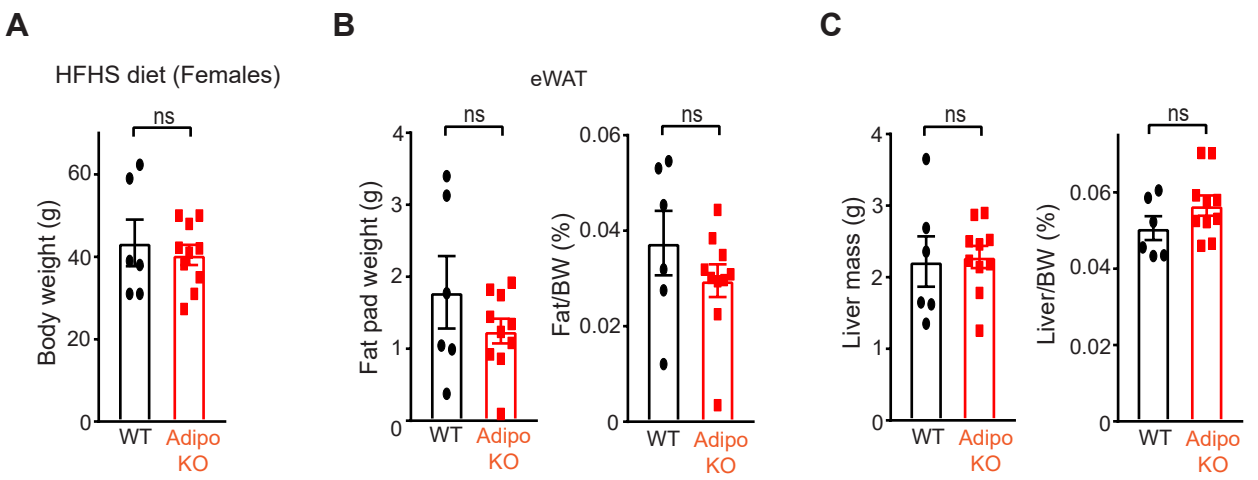
# Adipose-targeted SWELL1 deletion exacerbates obesity- and age-related non-alcoholic fatty liver disease



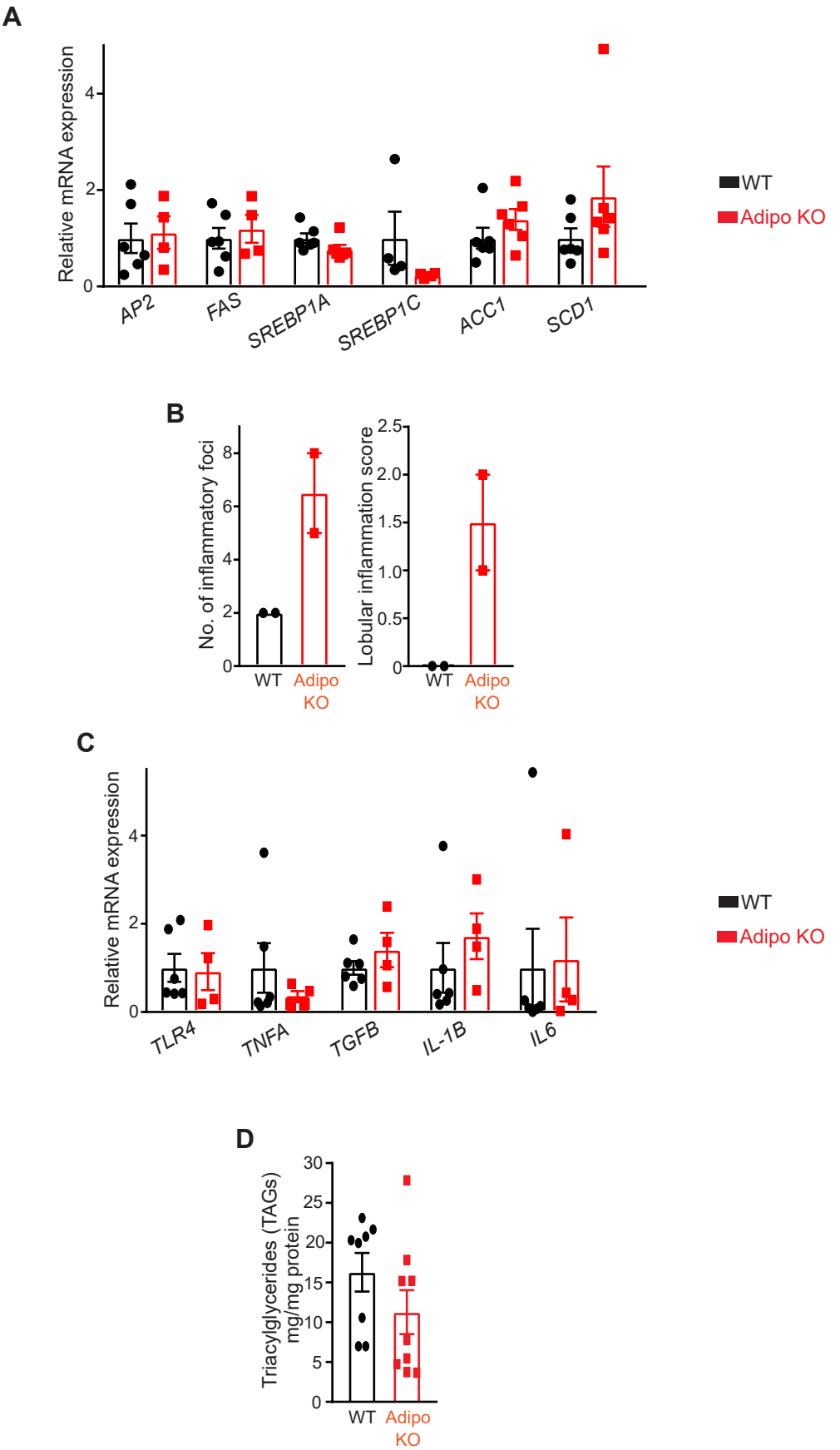

**Supplementary Figure 1**

**Supplementary Figure 1. Plasma composition in male WT and Adipo KO mice under GAN diet. (A-B)** Random plasma concentrations for NEFAs **(A)** and glycerol **(B)** in WT (n=7) and Adipo KO (n=8) mice (males) fed with GAN diet for 22 weeks. Data are represented as Mean ±SEM. Two-tailed unpaired t-test was used in **A-B**.



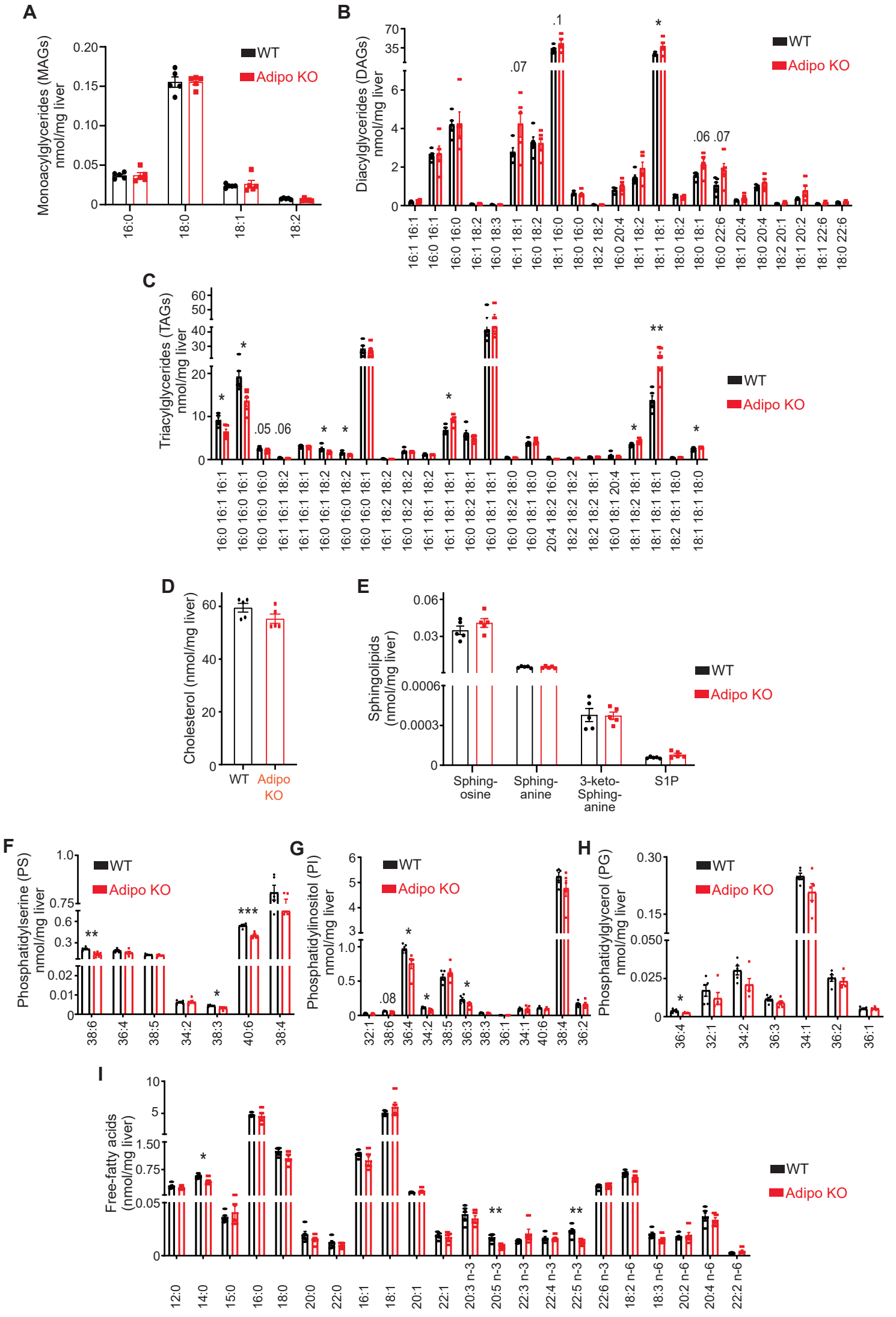

**Supplementary Figure 2**

**Supplementary Figure 2. Body weight, adiposity and liver weights in female WT and Adipo KO mice under HFHS diet. (A)** Total body weight of WT (n=6) and Adipo KO (n=10) female mice fed with high-fat/high-sucrose (HFHS) diet for 32 weeks. **(B)** Fat pad weights and ratio of fat pad over body weight of WT and Adipo KO mice from **A**. **(C)** Total liver mass and ratio of liver mass over body weight of WT and Adipo KO mice from **A**. Data are represented as Mean ±SEM. Two-tailed unpaired t-test was used in **A-C**, ns- no significance.



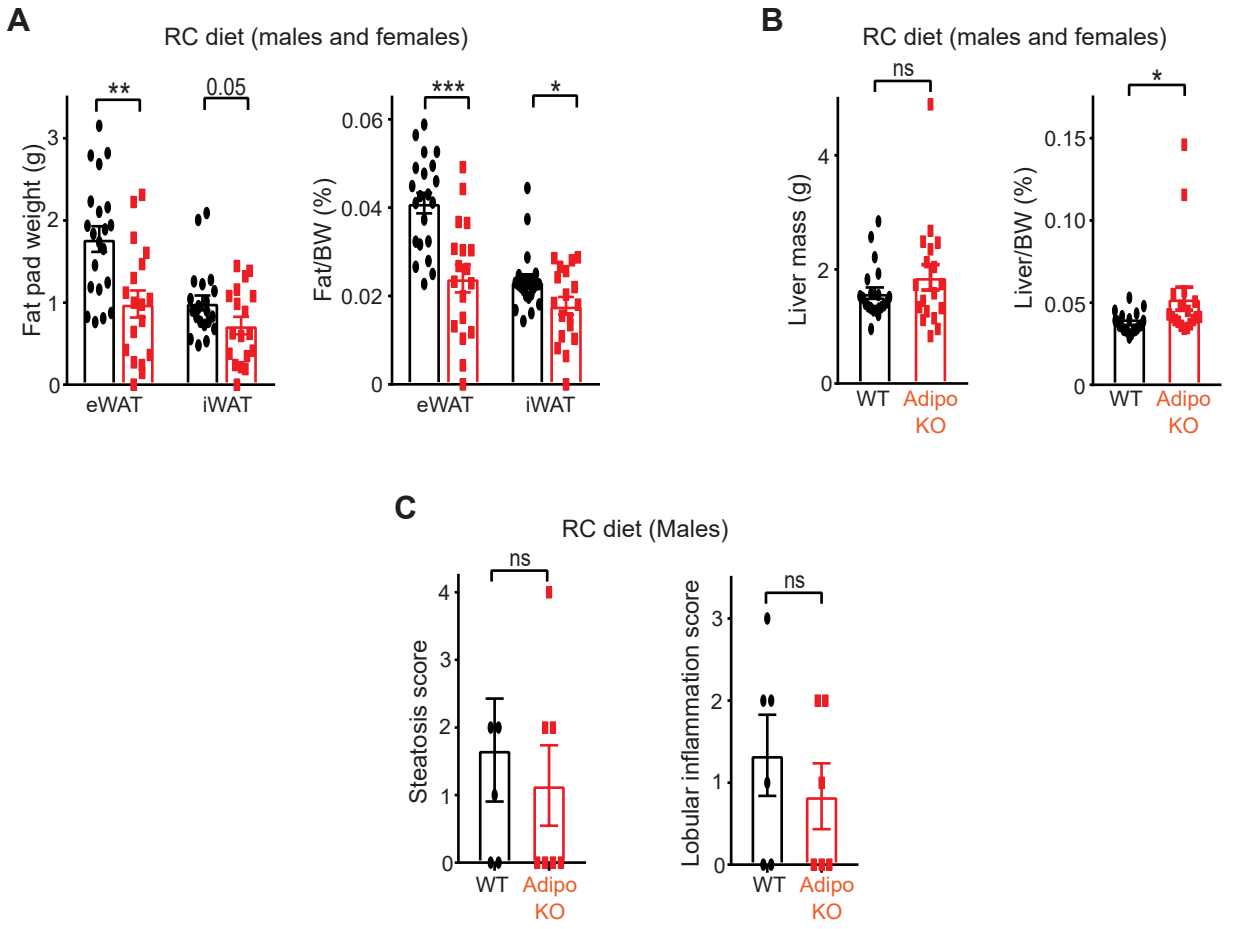

**Supplementary Figure 3**

**Supplementary Figure 3. Hepatic lipogenesis and inflammation in male Adipo KO mice. (A)** mRNA expression of hepatic lipogenic genes in WT and Adipo KO (n=4-6) livers relative to control *GAPDH*. **(B)** Estimation of total number of inflammatory foci and the corresponding lobular inflammation score from WT and Adipo KO (n=2) mice from **Figure 3C,D**. **(C)** mRNA expression of hepatic inflammatory genes in WT and Adipo KO (n=4-6) livers relative to control *GAPDH*. **(D)** Estimation of total hepatic triacylglycerides (TAG) from WT (n=8) and Adipo KO (n=9) mice (males) fed with Gubra Amylin NASH (GAN) diet for 23-25 weeks. Data are represented as Mean ±SEM. Two-tailed unpaired t-test was used in **A-D**.




**Supplementary Figure 4**

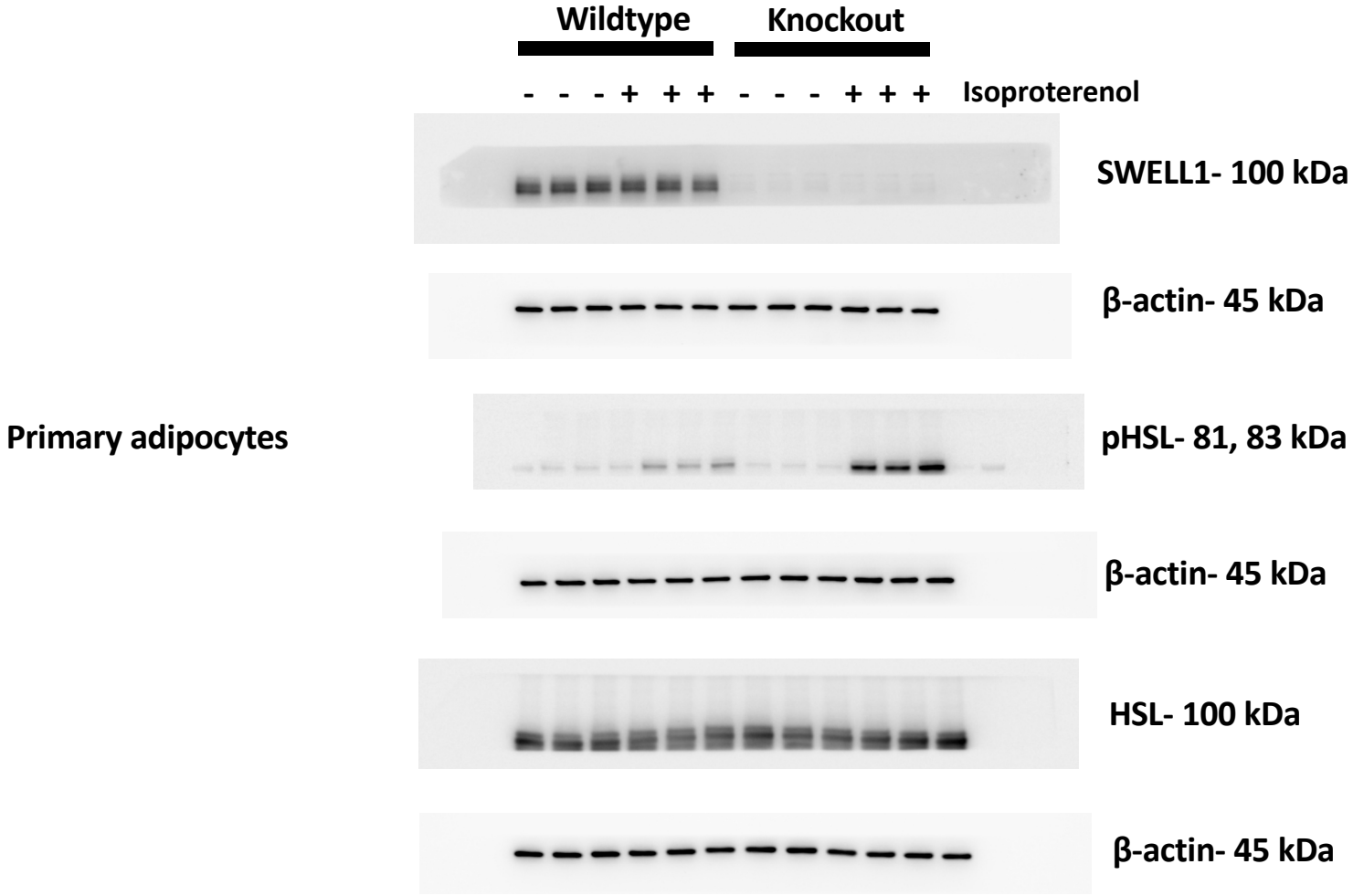
**Supplementary Figure 4. Hepatic lipid species in WT and Adipo KO mice. (A-I)** Hepatic lipid composition in MAGs **(A)**, DAGs **(B),** TAGs **(C)**, cholesterol **(D)**, sphingolipids **(E)**, phosphatidylserine **(F)**, phosphatidylinositol **(G)**, phosphatidylglycerol **(H)** and free-fatty acids **(I)** in WT and Adipo KO mice (n=5 each, males) on high-fat/high-sucrose (HFHS) diet for 27 weeks quantified using LC/MS method. Two-tailed unpaired t-test was used in **A-I** where *, ** and *** represents $p<0.05$, $p<0.01$ and $p<0.001$ respectively and $p$ values listed when $0.05<p<0.1$.



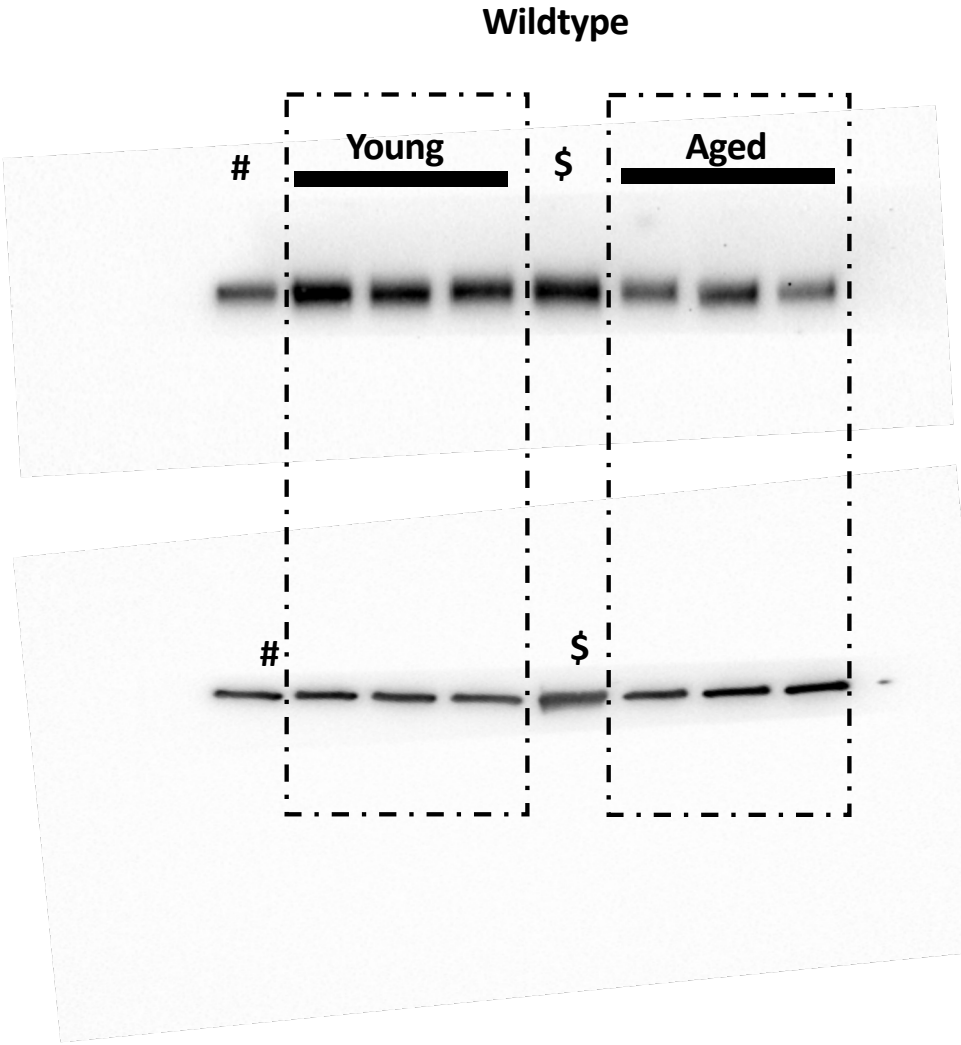

**Supplementary Figure 5**

**Supplementary Figure 5. Tissue weights, steatosis and inflammation score of WT and Adipo KO mice in aging. (A)** Total mass of epididymal (eWAT) and inguinal (iWAT) fat pads and their corresponding ratio of fat pad over body weight from WT (n=21) and Adipo KO (n=18) males and females mice upon aging under regular chow diet. **(B)** Liver mass and ratio of liver mass over body weight from WT (n=21) and Adipo KO (n=18) males and females mice upon aging under regular chow diet. **(C)** Steatosis and lobular inflammation score derived from liver sections of WT and Adipo KO (n=6-7) mice (males) upon aging under regular chow diet. Data are represented as Mean ±SEM. Two-tailed unpaired t-test was used in **A-C** where *, ** and *** represents $p<0.05$, $p<0.01$ and $p<0.001$ respectively and 'ns' denotes no significance.

**Full unedited gels for Figure. 2j**



**Full unedited gels for Figure. 5i**




**Sample not included in the analysis:**
**# - Unrelated sample**
**$ - contamination due to blood**