## SUPPLEMENTAL FIGURES AND TABLES

**Supplemental figure 1. Low-fat/high-carbohydrate diet consumption induces an increase in palmitate and palmitoleate levels.** Plasma levels of the fatty acid methyl ester (FAME) derivatives of palmitate (16:0), palmitoleate (16:1), stearate (18:0), oleate (18:1), linoleate (18:2), α-linolenate (18:3), arachidonate (20:4), and docosahexaenoate (22:6) are given in μmole/ml. Data are means ± SE of n = 9 animals per group per time point. $^{\#}P < 0.05$; $^{\#\#}$ P < 0.01; $^{\#\#\#}$ P < 0.001 vs. WD at same age. $^{\$}P < 0.05$; $^{\$\$\$}P < 0.001$ vs. HFD at same age.

**Supplemental figure 2. Intracardiac expression of endoplasmic reticulum stress markers remains unchanged between the three diets.** Transcript levels of the peptide-binding molecular chaperones Hspa5/BIP (**A**) and Grp94 (**B**), and of the disulfide isomerase Pdia4/Erp72 (**C**) were quantified by real-time PCR in the heart of Wistar rats fed either low-fat/high-carbohydrate (HCD; open bars), high-fat (HFD; hatched bars), or Western diet (WD; black bars) for acute (AT), short (ST), intermediate (IT), or long term (LT). Baseline mRNA levels (B; grey bar) were determined from 8 weeks old rats fed standard rodent chow for 2 weeks prior the beginning of the feeding protocol. Data are means ± SE of n = 13 to 18 animals per group per time point (Except baseline; n = 6). One, two, and three symbols represent $P < 0.05$, $P < 0.01$, and $P < 0.001$, respectively. $^{a}$ vs. baseline, $^{b}$ vs. acute term, $^{c}$ vs. short term, and $^{d}$ vs. intermediate term.

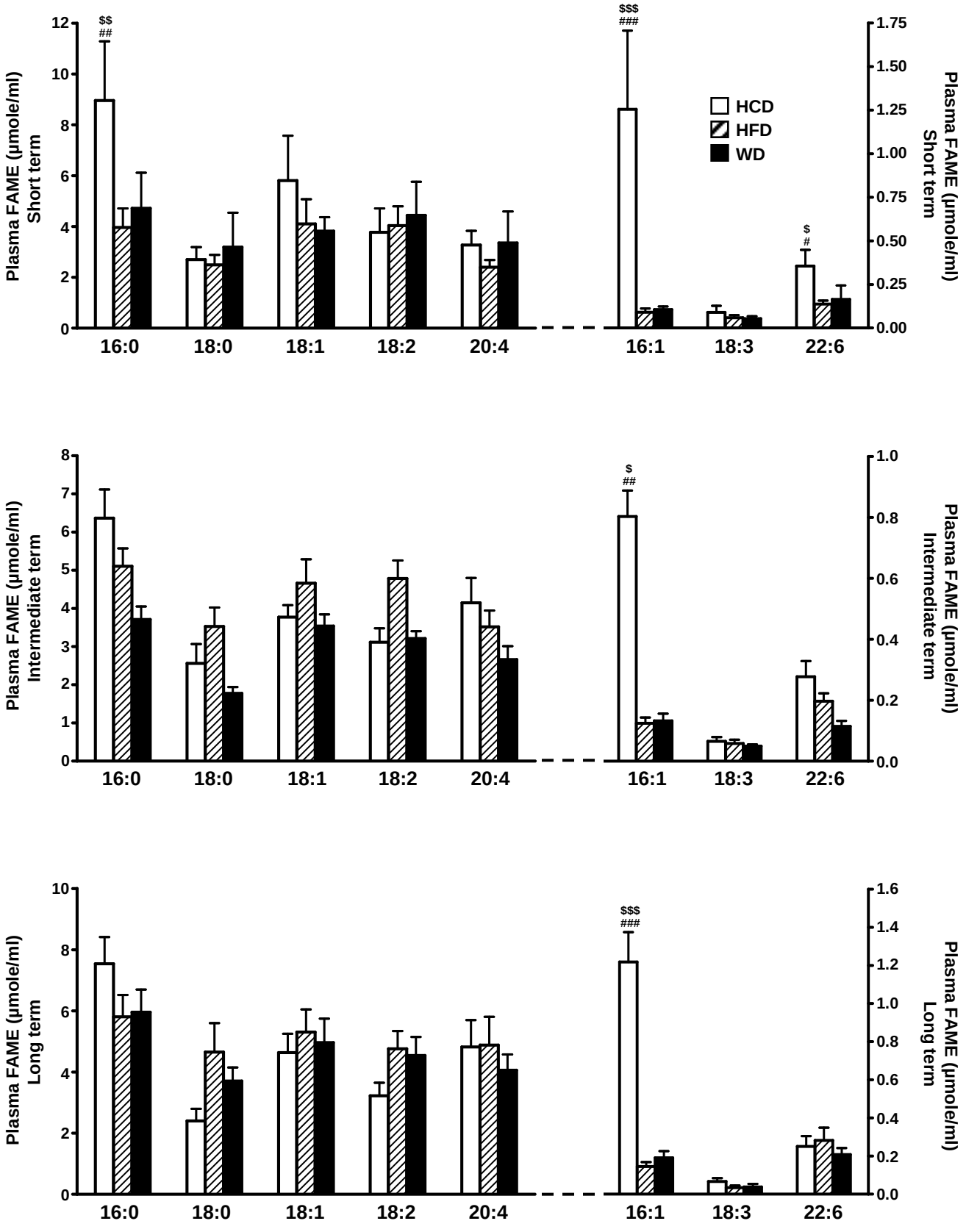
**Supplemental Table 1. Primers and Probes Used for Real-Time PCR Assays**

| Gene<br>Primer/Probe | Sequence |
|---|---|
| *acc1* | |
| Forward | 5’-TCGATGTCCTCCCAAACTTTTT-3’ |
| Reverse | 5’-TAGGCGATATAAGCTCTTCGAACA-3’ |
| Probe | 5’-FAM-AGGTGGTGAGGATGGCGGCTCTG-TAMRA-3’ |
| *chrebp* | |
| Forward | 5’-GAAGACGGCGGAGTACATCCT-3’ |
| Reverse | 5’-TGGCAGCATTGAGCTCCTCTAT-3’ |
| Probe | 5’-FAM-AGGAAGCGCAGCAACTGAGGGATG-TAMRA-3’ |
| *elovl6* | |
| Forward | 5’-GGTCGGCATCTGATGAACAAG-3’ |
| Reverse | 5’-CGAATATACTGAAGACCGCAAGAG-3’ |
| Probe | 5’-FAM-TGCGGAAGCCGCTCGTGCTC-TAMRA-3’ |
| *fasn* | |
| Forward | 5’-GGAACAACTCATCCGTTCTCTGT-3’ |
| Reverse | 5’-GGACCGAGTAATGCCGTTCA-3’ |
| Probe | 5’-FAM-CCCATGGCACGGGCACCAAG-TAMRA-3’ |
| *scd1* | |
| Forward | 5’-GCCTGTTAGCCCAGCCTCA-3’ |
| Reverse | 5’-CCAGCCAGCCTCTTGTCTACAC-3’ |
| Probe | 5’-FAM-CCTTCCCTTAACCCTGAGATCCCGTAGAT-TAMRA-3’ |
| *scd2* | |
| Forward | 5’-ACAGCGTGCCTCCTCTCCTA-3’ |
| Reverse | 5’-ATACCGATGTGTTGCCATATTTTAGT-3’ |
| Probe | 5’-FAM-TGATTGGGTGACAGCCGTGGAACTT-TAMRA-3’ |
| *srebp1* | |
| Forward | 5’-AGCATAGGTGAGGGATCATGGT-3’ |
| Reverse | 5’-ACCACGATTGTTTTGGAAGTTTG-3’ |
| Probe | 5’-FAM-CCTGGCCCCTCCCTCTACTCCCA-TAMRA-3’ |
| *hspa5* | |
| Forward | 5’-ACCGTCGTATGTGGCCTTCA-3’ |
| Reverse | 5’-TCCGGGTTGGACGTGAGTT-3’ |
| Probe | 5’-FAM-CTGATTGGCGATGCGGCC-TAMRA-3’ |
| *grp94* | |
| Forward | 5’-TGTCAAAGGTGTTGTGGATTCC-3’ |
| Reverse | 5’-AGAGTTTTGCGGACAAGCTTCT-3’ |
| Probe | 5’-FAM-TCTCCCCCTCAATGTTTCCCGTGA-TAMRA-3’ |
| *pdia4* | |
| Forward | 5’-CTTCTAACGATGCTAAGCGGTACA-3’ |

| | |
|---|---|
| Reverse | 5’-CGCCAAAACTGAGTAGCAGTTCT-3’ |
| Probe | 5’-FAM-CAAGCGCCCCCTGGTGGTTGTA-TAMRA-3’ |

All assays are designed for rat sequence. *acc1*, acetyl-CoA carboxylase, cytosolic; *chrebp*, carbohydrate response element binding protein; *elovl6*, ELOVL family member 6, elongation of long chain fatty acids; *fasn*, fatty acid synthase; *hspa5*, heat shock protein 5 ; *pdia4*, protein disulfide isomerase family A, member 4 ; *scd*, stearoyl-CoA desaturase; *srebp1*, sterol regulatory element binding protein 1.

# Supplemental Figure 1



# Supplemental Figure 2