

Supplementary Tables

Table S1. Forward and reverse primer sequences for genes analysed in the fetal and postnatal hepatic samples using qPCR and qRT-PCR.

| Gene | Forward Sequence | Reverse Sequence |
|---------|--------------------------|------------------------|
| MT-ND1 | CAACGTTCTAACACTCATCATTCC | GGGTCGTAGGGGTTCTTGA |
| MT-ND2 | AATTGCCACATAGGCTGAA | GGGGGAAGTCCTCCTATTGA |
| MT-ND6 | GGGGGTATGATGGTAGTTTG | AACCCAGAATCCCCCGTAT |
| RPS11 | ATCCGCCGAGACTACCTTCA | CCTGAAGCAGGGAGAAAGGT |
| RPS25 | CCTCACCCCAGGACAGTTTC | CAGCATGGGAAAGTGGGAT |
| NDUFA7 | CGCCCTCGATTGTCATGTCT | CCCCCAGCCAAAGTCATAGG |
| NDUFA12 | TCTGGGATGTGGATGGAAGC | TACGTACTGTTGTGGAGTGCC |
| NDUFB4 | GAAGATCCTGCCCTGATTG | CAATTCCGAACAGAGCTCCTA |
| CYCS | GGTGATGTTGAGAAAGGCAAG | TTGTTTTGTTGGCATCTGTG |
| UQCRB | AACGCTCTGTGTCAGGTCA | AACCCGGCAGCGTTGTAATA |
| UQCRC1 | AAAACCTCCTCCGAAACGCT | CCGTATGTCAGGAGACTGCG |
| COX5A | CGCTGGGTGACATACTCAA | GATGCGAACTGCACTAGCAA |
| COX6B1 | CCAGACTGCTCCTTTGACA | GATATGGGCAAAGGGACTT |
| COX7B | AGATTGGCATACTGGGGC | TGAGCAGCAGAGTGCTTAAAGA |
| ATP5IF1 | CTCGGAATCGGGAGATAGTG | GGAAGTATCGCTCCTCTCG |
| ATP5MC3 | GCTGTCCGAAGAGTGCAAG | CGCAGTGGTCTGAAACTCCC |
| ATP5PO | GACTCGGGTTGACCTACAG | AAGAGCTGAGGCATAGCGAC |

Table S2. Differentially expressed hepatic genes and proteins relevant to TCA cycle and OXPHOS in adolescent prenatally androgenized males as compared with adolescent male controls.

| Gene ID | Template | Detection technique | Fold change | P Value | Q Value |
|------------------|----------|---------------------|-------------|---------|---------|
| TCA cycle | | | | | |
| CS | mRNA | RNAseq | -1.43 | 0.00 | 0.00 |
| CS | protein | Proteomics | -1.12 | 0.06 | 0.35 |
| ACO2 | protein | Proteomics | -1.37 | 0.01 | 0.14 |
| IDH2 | mRNA | RNAseq | -1.29 | 0.01 | 0.07 |
| IDH2 | protein | Proteomics | -1.13 | 0.14 | 0.49 |
| IDH3A | mRNA | RNAseq | -1.15 | 0.04 | 0.20 |
| OGDH | mRNA | RNAseq | -1.16 | 0.00 | 0.05 |
| OGDH | protein | Proteomics | -1.24 | 0.00 | 0.14 |
| SUCLG1 | mRNA | RNAseq | -1.13 | 0.00 | 0.04 |
| SUCLA2 | mRNA | RNAseq | -1.14 | 0.03 | 0.17 |
| SUCLA2 | protein | Proteomics | -1.51 | 0.18 | 0.53 |
| SDHA | mRNA | RNAseq | -1.03 | 0.59 | 0.80 |
| SDHA | protein | Proteomics | -1.62 | 0.02 | 0.22 |
| SDHB | mRNA | RNAseq | -1.12 | 0.33 | 0.61 |
| SDHB | protein | Proteomics | -1.17 | 0.02 | 0.24 |
| SDHC | mRNA | RNAseq | -1.09 | 0.08 | 0.28 |
| SDHC | protein | Proteomics | -1.31 | 0.38 | 0.72 |
| SDHD | mRNA | RNAseq | -1.11 | 0.01 | 0.10 |
| MDH2 | mRNA | RNAseq | -1.09 | 0.04 | 0.19 |
| MDH2 | protein | Proteomics | -1.15 | 0.04 | 0.32 |

| OXPHOS Complex I | | | | | | |
|---------------------------|---------|------------|-------|------|------|--|
| <i>NDUFA1</i> | mRNA | RNAseq | -1.11 | 0.03 | 0.17 | |
| <i>NDUFA12</i> | mRNA | RNAseq | -1.19 | 0.00 | 0.01 | |
| <i>NDUFA2</i> | mRNA | RNAseq | -1.13 | 0.02 | 0.14 | |
| <i>NDUFA2</i> | protein | Proteomics | -1.18 | 0.22 | 0.58 | |
| <i>NDUFA4</i> | mRNA | RNAseq | -1.20 | 0.00 | 0.03 | |
| <i>NDUFA4</i> | protein | Proteomics | -1.14 | 0.08 | 0.42 | |
| <i>NDUFA5</i> | mRNA | RNAseq | -1.27 | 0.00 | 0.02 | |
| <i>NDUFA7</i> | mRNA | RNAseq | -1.25 | 0.00 | 0.03 | |
| <i>NDUFA7</i> | protein | Proteomics | -1.81 | 0.03 | 0.28 | |
| <i>NDUFA9</i> | mRNA | RNAseq | -1.10 | 0.01 | 0.07 | |
| <i>NDUFA9</i> | protein | Proteomics | -1.20 | 0.02 | 0.22 | |
| <i>NDUFAB1</i> | mRNA | RNAseq | -1.19 | 0.00 | 0.01 | |
| <i>NDUFB1</i> | mRNA | RNAseq | -1.14 | 0.01 | 0.09 | |
| <i>NDUFB10</i> | mRNA | RNAseq | -1.12 | 0.02 | 0.14 | |
| <i>NDUFB11</i> | mRNA | RNAseq | -1.13 | 0.01 | 0.09 | |
| <i>NDUFB3</i> | mRNA | RNAseq | -1.22 | 0.00 | 0.01 | |
| <i>NDUFB4</i> | mRNA | RNAseq | -1.21 | 0.00 | 0.00 | |
| <i>NDUFB5</i> | mRNA | RNAseq | -1.16 | 0.00 | 0.02 | |
| <i>NDUFB6</i> | mRNA | RNAseq | -1.14 | 0.01 | 0.08 | |
| <i>NDUFB8</i> | mRNA | RNAseq | -1.11 | 0.01 | 0.07 | |
| <i>NDUFB9</i> | mRNA | RNAseq | -1.15 | 0.00 | 0.04 | |
| <i>NDUFB9</i> | protein | Proteomics | -1.15 | 0.05 | 0.34 | |
| <i>NDUFC1</i> | mRNA | RNAseq | -1.11 | 0.01 | 0.10 | |
| <i>NDUFC2</i> | mRNA | RNAseq | -1.13 | 0.02 | 0.12 | |
| <i>NDUFS3</i> | mRNA | RNAseq | -1.17 | 0.00 | 0.01 | |
| <i>NDUFS4</i> | mRNA | RNAseq | -1.16 | 0.00 | 0.03 | |
| <i>NDUFS7</i> | mRNA | RNAseq | -1.13 | 0.03 | 0.16 | |
| <i>NDUFS8</i> | mRNA | RNAseq | -1.15 | 0.00 | 0.03 | |
| <i>NDUFS8</i> | protein | Proteomics | -1.15 | 0.03 | 0.28 | |
| <i>NDUfv2</i> | mRNA | RNAseq | -1.24 | 0.00 | 0.00 | |
| OXPHOS Complex III | | | | | | |
| <i>CYC1</i> | mRNA | RNAseq | -1.16 | 0.01 | 0.07 | |
| <i>CYC1</i> | protein | Proteomics | -1.25 | 0.01 | 0.14 | |
| <i>CYCS</i> | mRNA | RNAseq | -1.23 | 0.00 | 0.05 | |
| <i>UQCRB</i> | mRNA | RNAseq | -1.26 | 0.00 | 0.00 | |
| <i>UQCRC1</i> | mRNA | RNAseq | -1.15 | 0.01 | 0.07 | |
| <i>UQCRC2</i> | mRNA | RNAseq | -1.12 | 0.01 | 0.10 | |
| <i>UQCRC2</i> | protein | Proteomics | -1.14 | 0.05 | 0.33 | |
| <i>UQCRCFS1</i> | mRNA | RNAseq | -1.12 | 0.02 | 0.13 | |
| <i>UQCRH</i> | mRNA | RNAseq | -1.20 | 0.00 | 0.01 | |
| OXPHOS Complex IV | | | | | | |
| <i>MT-CO1</i> | mRNA | RNAseq | -1.15 | 0.03 | 0.17 | |
| <i>MT-CO2</i> | mRNA | RNAseq | -1.20 | 0.01 | 0.09 | |
| <i>MT-CO2</i> | protein | Proteomics | -1.38 | 0.10 | 0.44 | |
| <i>COX4I1</i> | mRNA | RNAseq | -1.08 | 0.03 | 0.17 | |
| <i>COX5A</i> | mRNA | RNAseq | -1.30 | 0.00 | 0.00 | |
| <i>COX5B</i> | mRNA | RNAseq | -1.14 | 0.00 | 0.06 | |
| <i>COX6B1</i> | mRNA | RNAseq | -1.12 | 0.00 | 0.05 | |
| <i>COX6C</i> | mRNA | RNAseq | -1.15 | 0.00 | 0.03 | |
| <i>COX7A1</i> | mRNA | RNAseq | -1.64 | 0.02 | 0.13 | |
| <i>COX7A2</i> | mRNA | RNAseq | -1.12 | 0.02 | 0.14 | |
| <i>COX7B</i> | mRNA | RNAseq | -1.19 | 0.00 | 0.03 | |

| OXPHOS Complex V | | | | | |
|-------------------------|---------|------------|-------|------|------|
| <i>MT-ATP8</i> | mRNA | RNAseq | -1.18 | 0.03 | 0.16 |
| <i>MT-ATP8</i> | protein | Proteomics | -1.23 | 0.57 | 0.83 |
| <i>ATP5F1A</i> | mRNA | RNAseq | -1.11 | 0.03 | 0.17 |
| <i>ATP5F1A</i> | protein | Proteomics | -1.10 | 0.11 | 0.45 |
| <i>ATP5F1B</i> | mRNA | RNAseq | -1.12 | 0.01 | 0.07 |
| <i>ATP5F1C</i> | mRNA | RNAseq | -1.15 | 0.00 | 0.04 |
| <i>ATP5F1E</i> | mRNA | RNAseq | -1.12 | 0.02 | 0.13 |
| <i>ATP5F1E</i> | protein | Proteomics | -1.14 | 0.37 | 0.71 |
| <i>ATP5F1</i> | mRNA | RNAseq | -1.17 | 0.00 | 0.01 |
| <i>ATP5MC1</i> | mRNA | RNAseq | -1.17 | 0.01 | 0.09 |
| <i>ATP5MC3</i> | mRNA | RNAseq | -1.19 | 0.00 | 0.02 |
| <i>ATP5MD</i> | mRNA | RNAseq | -1.18 | 0.00 | 0.03 |
| <i>ATP5MF</i> | mRNA | RNAseq | -1.11 | 0.03 | 0.17 |
| <i>ATP5MF</i> | protein | Proteomics | -1.41 | 0.13 | 0.48 |
| <i>ATP5MG</i> | mRNA | RNAseq | -1.11 | 0.00 | 0.05 |
| <i>ATP5PB</i> | mRNA | RNAseq | -1.10 | 0.03 | 0.17 |
| <i>ATP5PD</i> | mRNA | RNAseq | -1.09 | 0.04 | 0.18 |
| <i>ATP5PD</i> | protein | Proteomics | -1.10 | 0.28 | 0.64 |
| <i>ATP5PF</i> | mRNA | RNAseq | -1.11 | 0.03 | 0.17 |
| <i>ATP5PF</i> | protein | Proteomics | -1.12 | 0.41 | 0.73 |
| <i>ATP5PO</i> | mRNA | RNAseq | -1.13 | 0.01 | 0.09 |
| <i>ATP5PO</i> | protein | Proteomics | -1.14 | 0.09 | 0.43 |

Fold change is PA compared to control animals. P values cited are nominal values, false discovery rate adjusted Q values were calculated by Benjamini and Hochberg method.

Table S3. Correlation between hepatic ATP levels and OXPHOS genes in adolescent control and prenatally androgenized males.

| OXPHOS | Correlation with hepatic ATP | |
|-----------------|-------------------------------------|----------------|
| Gene ID | Pearson r | P value |
| <i>NDUFA1</i> | 0.31 | 0.06 |
| <i>NDUFA4</i> | 0.38 | 0.03 |
| <i>NDUFA12</i> | 0.27 | 0.09 |
| <i>NDUFAB1</i> | 0.46 | 0.01 |
| <i>NDUFB3</i> | 0.31 | 0.06 |
| <i>NDUFB4</i> | 0.37 | 0.03 |
| <i>NDUFB10</i> | 0.31 | 0.06 |
| <i>NDUFA9</i> | 0.56 | 0.00 |
| <i>NDUFB5</i> | 0.36 | 0.04 |
| <i>NDUFB11</i> | 0.31 | 0.06 |
| <i>NDUFC1</i> | 0.28 | 0.08 |
| <i>NDUFS4</i> | 0.39 | 0.02 |
| <i>NDUFS7</i> | 0.42 | 0.02 |
| <i>NDUFV2</i> | 0.30 | 0.07 |
| <i>UQCRCB</i> | 0.27 | 0.09 |
| <i>UQCRC2</i> | 0.37 | 0.03 |
| <i>UQCRCFS1</i> | 0.35 | 0.04 |
| <i>COX5A</i> | 0.27 | 0.09 |
| <i>COX5B</i> | 0.33 | 0.05 |
| <i>COX7B</i> | 0.35 | 0.04 |
| <i>ATP5F1B</i> | 0.27 | 0.09 |
| <i>ATP5MC1</i> | 0.32 | 0.05 |
| <i>ATP5MD</i> | 0.32 | 0.06 |

| | | |
|---------------|------|------|
| <i>ATP5MG</i> | 0.36 | 0.04 |
| <i>ATP5PD</i> | 0.39 | 0.02 |
| <i>ATP5PF</i> | 0.30 | 0.07 |
| <i>ATP5PO</i> | 0.40 | 0.02 |

Table S4. Differentially expressed genes and proteins relevant to hepatic fatty acid and cholesterol metabolism in adolescent prenatally androgenized males as compared with adolescent male controls.

| Gene ID | Template | Detection technique | Fold change | P value | Q Value |
|--|----------|---------------------|-------------|---------|---------|
| Hepatic FA uptake and trafficking | | | | | |
| <i>CD36</i> | mRNA | RNAseq | 1.26 | 0.11 | 0.34 |
| <i>SLC27A5</i> | mRNA | RNAseq | 1.11 | 0.06 | 0.23 |
| <i>SLC27A5</i> | protein | Proteomics | 1.29 | 0.00 | 0.12 |
| <i>FABP5</i> | mRNA | RNAseq | 1.40 | 0.04 | 0.19 |
| Mitochondrial uptake of FA | | | | | |
| <i>CPT1A</i> | mRNA | RNAseq | 1.33 | 0.00 | 0.01 |
| <i>CPT1A</i> | protein | Proteomics | 1.22 | 0.01 | 0.14 |
| <i>CPT1B</i> | mRNA | RNAseq | 1.42 | 0.00 | 0.01 |
| <i>SLC25A20</i> | mRNA | RNAseq | 1.16 | 0.09 | 0.30 |
| <i>CPT2</i> | mRNA | RNAseq | 1.15 | 0.01 | 0.09 |
| <i>CPT2</i> | protein | Proteomics | 1.76 | 0.10 | 0.44 |
| <i>CRAT</i> | mRNA | RNAseq | 1.17 | 0.01 | 0.09 |
| Fatty acid activation | | | | | |
| <i>ACSS2</i> | mRNA | RNAseq | -2.03 | 0.00 | 0.02 |
| <i>ACSS2</i> | protein | Proteomics | -1.32 | 0.48 | 0.79 |
| <i>ACSL3</i> | mRNA | RNAseq | -1.44 | 0.00 | 0.01 |
| <i>ACSL5</i> | mRNA | RNAseq | -1.19 | 0.02 | 0.11 |
| <i>ACSL5</i> | protein | Proteomics | -1.23 | 0.00 | 0.13 |
| Mitochondrial beta oxidation | | | | | |
| <i>ACADSB</i> | mRNA | RNAseq | -1.25 | 0.00 | 0.05 |
| <i>ACADSB</i> | protein | Proteomics | -1.19 | 0.02 | 0.25 |
| <i>ECHS1</i> | mRNA | RNAseq | -1.17 | 0.01 | 0.09 |
| <i>ECHS1</i> | protein | Proteomics | -1.16 | 0.02 | 0.24 |
| <i>DECR1</i> | mRNA | RNAseq | -1.22 | 0.00 | 0.06 |
| <i>DECR1</i> | protein | Proteomics | -1.14 | 0.07 | 0.39 |
| Peroxisomal beta oxidation | | | | | |
| <i>ACOX2</i> | protein | Proteomics | 5.02 | 0.00 | 0.08 |
| <i>EHHADH</i> | protein | Proteomics | 3.53 | 0.00 | 0.10 |
| <i>ACAA1</i> | protein | Proteomics | 1.57 | 0.00 | 0.07 |
| <i>CROT</i> | mRNA | RNAseq | 1.19 | 0.02 | 0.11 |
| Hepatic FA lipogenesis, elongation and desaturation | | | | | |
| <i>MLYCD</i> | mRNA | RNAseq | 1.2 | 0.00 | 0.06 |
| <i>ACLY</i> | mRNA | RNAseq | -1.9 | 0.00 | 0.00 |
| <i>ACLY</i> | protein | Proteomics | -2.0 | 0.03 | 0.29 |
| <i>ACACA</i> | mRNA | RNAseq | -1.8 | 0.00 | 0.01 |
| <i>FASN</i> | mRNA | RNAseq | -2.5 | 0.00 | 0.03 |
| <i>FASN</i> | protein | Proteomics | -2.5 | 0.04 | 0.32 |
| <i>ELOVL6</i> | mRNA | RNAseq | -2.5 | 0.00 | 0.00 |
| <i>SCD</i> | mRNA | RNAseq | -4.3 | 0.00 | 0.00 |
| Cholesterol trafficking and metabolism | | | | | |
| <i>NPC1</i> | mRNA | RNAseq | -1.34 | 0.00 | 0.06 |
| <i>NPC2</i> | mRNA | RNAseq | -1.02 | 0.60 | 0.81 |
| <i>SOAT2</i> | mRNA | RNAseq | 1.2 | 0.00 | 0.03 |
| Lipid droplet accumulation | | | | | |
| <i>PLIN2</i> | mRNA | RNAseq | 1.95 | 0.01 | 0.07 |
| <i>PLIN5</i> | mRNA | RNAseq | 1.27 | 0.00 | 0.03 |

Fold change is PA compared to control animals. P values cited are nominal values, false discovery rate adjusted Q values were calculated by Benjamini and Hochberg method.

Table S5. Differentially expressed genes and proteins relevant to hepatic glucose metabolism in adolescent prenatally androgenized males as compared with adolescent male controls.

| Gene ID | Template | Detection technique | Fold change | P value | Q Value |
|---------------------------------------|----------|---------------------|-------------|---------|---------|
| Glycolysis | | | | | |
| <i>HK1</i> | mRNA | RNAseq | 1.01 | 0.87 | 0.95 |
| <i>HK2</i> | mRNA | RNAseq | -1.09 | 0.11 | 0.34 |
| <i>HK3</i> | mRNA | RNAseq | -1.04 | 0.73 | 0.88 |
| <i>PFKL</i> | mRNA | RNAseq | -1.09 | 0.37 | 0.65 |
| <i>PFKL</i> | protein | Proteomics | -1.28 | 0.01 | 0.14 |
| <i>PKLR</i> | mRNA | RNAseq | -1.05 | 0.43 | 0.69 |
| <i>PKLR</i> | protein | Proteomics | -1.33 | 0.03 | 0.28 |
| Pyruvate transport | | | | | |
| <i>MPC1</i> | mRNA | RNAseq | 1.26 | 0.01 | 0.06 |
| <i>MPC2</i> | mRNA | RNAseq | -1.05 | 0.34 | 0.62 |
| Pyruvate dehydrogenase complex | | | | | |
| <i>PDHA1</i> | mRNA | RNAseq | -1.09 | 0.15 | 0.40 |
| <i>PDHA1</i> | protein | Proteomics | -1.42 | 0.00 | 0.08 |
| <i>PDHB</i> | mRNA | RNAseq | -1.10 | 0.04 | 0.19 |
| <i>DLAT</i> | mRNA | RNAseq | -1.14 | 0.00 | 0.03 |
| <i>DLAT</i> | protein | Proteomics | -1.33 | 0.03 | 0.29 |
| PDHC kinases | | | | | |
| <i>PDK1</i> | mRNA | RNAseq | 1.01 | 0.88 | 0.95 |
| <i>PDK2</i> | mRNA | RNAseq | 1.04 | 0.37 | 0.65 |
| <i>PDK3</i> | mRNA | RNAseq | -1.10 | 0.17 | 0.42 |
| <i>PDK4</i> | mRNA | RNAseq | 1.55 | 0.00 | 0.01 |
| Gluconeogenesis | | | | | |
| <i>PC</i> | mRNA | RNAseq | 1.82 | 0.00 | 0.01 |
| <i>PC</i> | protein | Proteomics | 1.17 | 0.16 | 0.52 |
| <i>PCK1</i> | mRNA | RNAseq | 1.12 | 0.18 | 0.44 |
| <i>FBP1</i> | mRNA | RNAseq | 1.03 | 0.73 | 0.88 |
| <i>FBP1</i> | protein | Proteomics | 1.13 | 0.07 | 0.38 |
| <i>FBP2</i> | mRNA | RNAseq | 1.54 | 0.01 | 0.09 |
| <i>G6PC2</i> | mRNA | RNAseq | 1.21 | 0.08 | 0.28 |
| Glycogen synthesis | | | | | |
| <i>GYS2</i> | mRNA | RNAseq | 1.21 | 0.01 | 0.11 |

Fold change is PA compared to control animals. P values cited are nominal values, false discovery rate adjusted Q values were calculated by Benjamini and Hochberg method.

Table S6. Correlation between hepatic free cholesterol levels and OXPHOS genes in adolescent control and prenatally androgenized males.

| OXPHOS | Correlation with hepatic free cholesterol | | |
|------------------|---|-----------|---------|
| | Gene ID | Pearson r | P value |
| Complex I | | | |
| <i>NDUFA1</i> | -0.27 | 0.16 | |
| <i>NDUFA2</i> | -0.16 | 0.41 | |
| <i>NDUFA4</i> | -0.32 | 0.09 | |
| <i>NDUFA5</i> | -0.48 | 0.01 | |
| <i>NDUFA7</i> | -0.28 | 0.14 | |
| <i>NDUFA9</i> | -0.44 | 0.01 | |
| <i>NDUFA12</i> | -0.39 | 0.03 | |
| <i>NDUFAB1</i> | -0.49 | 0.00 | |
| <i>NDUFB1</i> | -0.14 | 0.47 | |

| | | |
|--------------------|-------|------|
| <i>NDUFB3</i> | -0.42 | 0.02 |
| <i>NDUFB4</i> | -0.33 | 0.08 |
| <i>NDUFB5</i> | -0.39 | 0.04 |
| <i>NDUFB6</i> | -0.39 | 0.04 |
| <i>NDUFB8</i> | -0.30 | 0.12 |
| <i>NDUFB9</i> | -0.41 | 0.03 |
| <i>NDUFB10</i> | -0.42 | 0.02 |
| <i>NDUFB11</i> | -0.24 | 0.22 |
| <i>NDUFC1</i> | -0.25 | 0.20 |
| <i>NDUFC2</i> | -0.29 | 0.13 |
| <i>NDUFS3</i> | -0.44 | 0.01 |
| <i>NDUFS4</i> | -0.41 | 0.02 |
| <i>NDUFS7</i> | -0.15 | 0.45 |
| <i>NDUFS8</i> | -0.26 | 0.17 |
| <i>NDUFS2</i> | -0.46 | 0.01 |
| Complex III | | |
| <i>CYC1</i> | -0.31 | 0.10 |
| <i>CYCS</i> | -0.31 | 0.10 |
| <i>UQCRB</i> | -0.44 | 0.02 |
| <i>UQCRC1</i> | -0.30 | 0.11 |
| <i>UQCRC2</i> | -0.21 | 0.27 |
| <i>UQCRCFS1</i> | -0.33 | 0.08 |
| <i>UQCRH</i> | -0.32 | 0.09 |
| Complex IV | | |
| <i>MT-CO2</i> | -0.13 | 0.5 |
| <i>COX5A</i> | -0.39 | 0.03 |
| <i>COX5B</i> | -0.25 | 0.21 |
| <i>COX6B1</i> | -0.35 | 0.07 |
| <i>COX6C</i> | -0.35 | 0.06 |
| <i>COX7B</i> | -0.42 | 0.02 |
| Complex V | | |
| <i>MT-ATP8</i> | -0.33 | 0.08 |
| <i>ATP5F1A</i> | -0.29 | 0.13 |
| <i>ATP5F1B</i> | -0.18 | 0.34 |
| <i>ATP5F1E</i> | -0.29 | 0.13 |
| <i>ATP5F1C</i> | -0.35 | 0.06 |
| <i>ATP5F1</i> | -0.44 | 0.01 |
| <i>ATP5MC1</i> | -0.20 | 0.29 |
| <i>ATP5MC3</i> | -0.28 | 0.10 |
| <i>ATP5MD</i> | -0.36 | 0.05 |
| <i>ATP5MF</i> | -0.39 | 0.03 |
| <i>ATP5MG</i> | -0.45 | 0.01 |
| <i>ATP5PF</i> | -0.38 | 0.04 |
| <i>ATP5PD</i> | -0.37 | 0.05 |
| <i>ATP5PO</i> | -0.39 | 0.04 |

Table S7. Differentially expressed genes and proteins relevant to hepatic mitochondrial transporters, translocases and channels in adolescent prenatally androgenized males as compared with adolescent male controls.

| Gene ID | Template | Detection technique | Fold change | P value | Q Value |
|---|----------|---------------------|-------------|---------|---------|
| Mitochondrial transporters, translocases and channels | | | | | |
| <i>CLIC2</i> | mRNA | RNAseq | -1.33 | 0.00 | 0.05 |
| <i>SFXN3</i> | mRNA | RNAseq | -1.34 | 0.02 | 0.12 |
| <i>SLC25A3</i> | mRNA | RNAseq | -1.13 | 0.00 | 0.01 |
| <i>SLC25A5</i> | mRNA | RNAseq | -1.28 | 0.00 | 0.03 |

| | | | | | |
|-----------------|---------|------------|-------|------|------|
| <i>SLC25A11</i> | mRNA | RNASeq | -1.11 | 0.02 | 0.13 |
| <i>SLC25A12</i> | mRNA | RNASeq | -1.24 | 0.01 | 0.06 |
| <i>SLC25A17</i> | mRNA | RNASeq | -1.10 | 0.03 | 0.15 |
| <i>SLC25A25</i> | mRNA | RNASeq | 1.31 | 0.02 | 0.13 |
| <i>SLC25A29</i> | mRNA | RNASeq | 1.39 | 0.00 | 0.02 |
| <i>SLC25A30</i> | mRNA | RNASeq | 1.95 | 0.00 | 0.02 |
| <i>SLC25A32</i> | mRNA | RNASeq | 1.11 | 0.02 | 0.14 |
| <i>SLC25A34</i> | mRNA | RNASeq | 1.52 | 0.00 | 0.00 |
| <i>SLC25A35</i> | mRNA | RNASeq | -1.40 | 0.00 | 0.01 |
| <i>SLC25A42</i> | mRNA | RNASeq | 1.36 | 0.00 | 0.01 |
| <i>SLC25A44</i> | mRNA | RNASeq | 1.12 | 0.01 | 0.10 |
| <i>SLC25A45</i> | mRNA | RNASeq | 1.89 | 0.00 | 0.02 |
| <i>SLC25A47</i> | mRNA | RNASeq | 1.77 | 0.00 | 0.03 |
| <i>SLC25A48</i> | mRNA | RNASeq | 1.25 | 0.00 | 0.02 |
| <i>TIMM8B</i> | mRNA | RNASeq | 1.13 | 0.01 | 0.10 |
| <i>TIMM9</i> | mRNA | RNASeq | -1.23 | 0.00 | 0.01 |
| <i>TIMM21</i> | mRNA | RNASeq | -1.11 | 0.00 | 0.05 |
| <i>TIMM23</i> | mRNA | RNASeq | -1.23 | 0.00 | 0.01 |
| <i>TIMM50</i> | mRNA | RNASeq | -1.19 | 0.00 | 0.01 |
| <i>TIMMDC1</i> | mRNA | RNASeq | -1.15 | 0.00 | 0.02 |
| <i>TOMM5</i> | mRNA | RNASeq | -1.15 | 0.01 | 0.09 |
| <i>TOMM22</i> | mRNA | RNASeq | -1.16 | 0.02 | 0.13 |
| <i>TOMM34</i> | mRNA | RNASeq | -1.21 | 0.02 | 0.14 |
| <i>TOMM40</i> | mRNA | RNASeq | -1.21 | 0.00 | 0.05 |
| <i>TOMM40</i> | protein | Proteomics | -1.30 | 0.18 | 0.54 |
| <i>TOMM70A</i> | mRNA | RNASeq | -1.08 | 0.02 | 0.12 |
| <i>VDAC2</i> | mRNA | RNASeq | -1.10 | 0.01 | 0.06 |
| <i>VDAC3</i> | mRNA | RNASeq | -1.10 | 0.01 | 0.10 |

Fold change is PA compared to control animals. P values cited are nominal values, false discovery rate adjusted Q values were calculated by Benjamini and Hochberg method.

Table S8. Differentially expressed genes and proteins relevant to hepatic mitochondrial quality control in adolescent prenatally androgenized males as compared with adolescent male controls.

| Gene ID | Template | Detection technique | Fold change | P value | Q Value |
|------------------------------|----------|---------------------|-------------|---------|---------|
| Mitochondrial Fusion | | | | | |
| <i>MFN1</i> | mRNA | RNASeq | 1.0 | 0.57 | 0.79 |
| <i>MFN2</i> | mRNA | RNASeq | 1.1 | 0.08 | 0.28 |
| <i>OPA1</i> | mRNA | RNASeq | -1.1 | 0.03 | 0.17 |
| <i>OPA1</i> | protein | Proteomics | -1.1 | 0.50 | 0.80 |
| Mitochondrial Fission | | | | | |
| <i>DNM1L</i> | mRNA | RNASeq | -1.2 | 0.00 | 0.03 |
| <i>MTFP1</i> | mRNA | RNASeq | -1.4 | 0.00 | 0.05 |
| <i>MTFR1</i> | mRNA | RNASeq | -1.1 | 0.01 | 0.07 |
| Mitophagy | | | | | |
| <i>CALCOCO2</i> | mRNA | RNASeq | -1.3 | 0.00 | 0.00 |
| <i>FUNDC1</i> | mRNA | RNASeq | -1.1 | 0.00 | 0.04 |
| <i>GABARAPL2</i> | mRNA | RNASeq | -1.1 | 0.00 | 0.01 |
| <i>OPTN</i> | mRNA | RNASeq | -1.1 | 0.01 | 0.09 |
| <i>PARK2</i> | mRNA | RNASeq | 1.17 | 0.01 | 0.07 |
| <i>PARK7</i> | mRNA | RNASeq | -1.16 | 0.00 | 0.01 |
| <i>PHB1</i> | mRNA | RNASeq | -1.2 | 0.00 | 0.03 |
| <i>PINK1</i> | mRNA | RNASeq | -1.1 | 0.04 | 0.19 |
| <i>PGAM5</i> | mRNA | RNASeq | -1.1 | 0.01 | 0.07 |
| <i>RHOT1</i> | mRNA | RNASeq | -1.1 | 0.00 | 0.03 |

| | | | | | |
|---------------|------|--------|-----|------|------|
| <i>USP30</i> | mRNA | RNAseq | 1.1 | 0.00 | 0.01 |
| <i>ZNF746</i> | mRNA | RNAseq | 1.1 | 0.01 | 0.08 |

Fold change is PA compared to control animals. P values cited are nominal values, false discovery rate adjusted Q values were calculated by Benjamini and Hochberg method.

Table S9. Correlation between ROS levels and hepatic lipid metabolism, detoxification potential and fibrosis effectors in adolescent control and prenatally androgenized males.

| Correlation with hepatic ROS levels | Pearson r | P value |
|---------------------------------------|-----------|---------|
| Hepatic cholesterol metabolism | | |
| Hepatic <i>CYP7A1</i> expression | -0.42 | 0.03 |
| Hepatic <i>NPC1</i> expression | -0.41 | 0.04 |
| Hepatic free cholesterol | 0.36 | 0.06 |
| Mitochondrial FA uptake | | |
| Hepatic <i>CPT1A</i> expression | 0.54 | 0.00 |
| Hepatic <i>CPT1B</i> expression | 0.64 | 0.00 |
| Regulation of lipid metabolism | | |
| Hepatic <i>PPARA</i> expression | 0.40 | 0.04 |
| Hepatic <i>NR1/2</i> expression | 0.69 | 0.00 |
| Liver detoxification potential | | |
| Hepatic <i>GSS</i> expression | -0.38 | 0.05 |
| Hepatic <i>GSTM1</i> expression | -0.36 | 0.07 |
| Hepatic <i>GSTO1</i> expression | -0.51 | 0.01 |
| Hepatic <i>GPX4</i> expression | -0.43 | 0.02 |
| Hepatic <i>GPX7</i> expression | 0.36 | 0.06 |
| Fibrosis effectors | | |
| Hepatic <i>FGFR2</i> expression | 0.47 | 0.01 |
| Hepatic <i>FGFR3</i> expression | 0.42 | 0.03 |
| Hepatic <i>COL4A1</i> expression | 0.51 | 0.01 |
| Hepatic <i>COL4A2</i> expression | 0.52 | 0.01 |
| Hepatic <i>COL4A4</i> expression | 0.33 | 0.09 |
| Hepatic <i>COL18A1</i> expression | 0.66 | 0.00 |
| Hepatic <i>COL27A1</i> expression | 0.47 | 0.01 |