| Gene name | Forward (5'->3') | Reverse (3'->5') |
|-----------|-----------------|-----------------|
| *Nppa*   | GGAGCCTACGAAGATCCAGC | TTCGGTACCGGAAGCTGTTG |
| *Nppb*   | GTTCAGCAGGACCTCAA | CAACCTCAGTGCTTACAGCC |
| *Myh6*   | CTGTTCCTCTCTCGGTCCAG | ATTTCTGTCACCAACACTCCTGTTA |
| *Myh7*   | CGCATCAGCAGCTCACC | CTGGACGCAGTAGTGGTT |
| *Acta1*  | CAGAGTCAGAGCCAGAAGACT | AGCCGTGATTCACACACAGAGA |
| *Serca2a* | TTTGCCCCTCATTTCCAGA | GGCTGCACACACTCTTACC |
| *Tnnt2*  | AGCCCACATGCCTGCTTAAA | TCTCGGCTTCTCCCTCTGAAAC |
| *Col1a1* | CAGATGACTCCCCGTCGAGT | CAGTCTCGTGTGTGATCCCTGG |
| *Col3a1* | GAGGGCCCATAGCTGAACTGA | TGACTGTGCCACGTAAAGCA |
| *Nox2*   | GGGAATCCTGGCTGTAATGA | CAGTTGCTACCAACAGTACGTT |
| *Nox4*   | CCAAATGTGCTGGGAGATTGTG | CAGGACTGTCCCAGGCACATAG |
| *Nos3*   | Taqman Probe | mm00435204_m1 |
| *Ucp1*   | CCGGCTGGACACTGACC | ACCTAATGCTACTGGAAGCCTGG |
| *Ppargc1a* | TCTTTGCAGTGTGCTGCTCTT | CGCTACACACTTCCATCCA |
| *Ppara*  | TGGGACCCCTCCAGCAAGTGGAA | CCCGAACTTGACCACGCAC |
| *Pparg*  | TTTAAAAACACGACACTCCCTTACTGAAATT | AGAGGCCACGAGCTGATTCC |
| *Gapdh*  | CAACGGGAAGCCCACACAC | GCCTCACCCCCATTTGATGTT |
| *Sdha*   | TTCCGTGTCGGGAGGTATTG | ATTCTGCACTCCAGGGTCTC |
| *36b4*   | AGATGCAGCAGATCCGCA | GTTCTGGCCCACACAGCAC |
**Supplementary Table 2.**

|                          | CC       | CO       | OC       | OO       | MD       | PD       | MDXPD    | P-values   |
|--------------------------|----------|----------|----------|----------|----------|----------|----------|------------|
| **Mesenteric (g)**       | 0.17±0.01| 0.30±0.06| 0.21±0.02| 0.33±0.05*| 0.4207   | 0.0047   | 0.8767   |            |
| as % body weight         | 0.70±0.05| 1.02±0.2 | 0.85±0.1 | 1.06±0.1 | 0.4111   | 0.0360   | 0.6629   |            |
| **Epididymal (g)**       | 0.24±0.03| 0.94±0.15***| 0.40±0.025| 1.15±0.23***| 0.1674   | <0.0001 | 0.8680   |            |
| as % body weight         | 0.95±0.1 | 3.2±0.4***| 1.62±0.1 | 3.7±0.5***| 0.1087   | <0.0001 | 0.8849   |            |
| **Retroperitoneal (g)**  | 0.05±0.008| 0.27±0.05***| 0.10±0.02 | 0.26±0.05**| 0.6661   | <0.0001 | 0.3590   |            |
| as % body weight         | 0.20±0.03| 0.92±0.2***| 0.41±0.07 | 0.80±0.1** | 0.6924   | <0.0001 | 0.1447   |            |
| **BAT**                  | 0.07±0.006| 0.12±0.01**| 0.08±0.004| 0.17±0.02***| 0.0280   | <0.0001 | 0.1039   |            |
| as % body weight         | 0.29±0.02| 0.42±0.03* | 0.32±0.02 | 0.55±0.05***| 0.0159   | <0.0001 | 0.1098   |            |
Supplementary Figure 1.

Supplementary Figure 2.
Supplementary Figure 3.

**Brown Adipose**

![Graphs](image)

**Subcutaneous Adipose**

![Graphs](image)