**TABLE S1. qRT-PCR primers.**

| **Transcript** | **Forward Primer** | **Reverse Primer** |
| --- | --- | --- |
| Acc1 | GATGAACCATCTCCGTTGGC | CCCAATTATGAATCGGGAGTGC |
| Agpat1 | GACAGAGATACAGCCAGCCG | CCACAGCTCCATTCTGGTCA |
| Atgl | CTGAGAATCACCATTCCCACATC | CACAGCATGTAAGGGGGAGA |
| Bdh1 | ATAGGGCCTGAGAGGGAAGG | GCAGTACAAATGCATCCCGC |
| Bhlhe41 | TGTGTAAACCCAAAAGGAGCTT | TGTTCGGGCAGTAAATCTTTCAG |
| Bsep | ACACCATTGTATGGATCAACAGC | GCTTGTTCCGTTTGTCATGTTC |
| Ces1g | ACCAGACACCTCACTAGACCC | CACAGGCGGTAAGGATGGG |
| Cgi-58 | TGGTGTCCCACATCTACATCA | CAGCGTCCATATTCTGTTTCCA |
| Cpt1a | CACTGCAGCTCGCACATTAC | CCAGCACAAAGTTGCAGGAC |
| Creb3l3 | TCGTGCCAGTGCGAGTGT | AGCCACGCGGGATGC |
| Cyp7a1 | GAAAGTAGGTGAACCTCCTTTGG | CCCAGGTATGGAATCAACCCG |
| Dagt1 | GCCTTACTGGTTGAGTCTATCAC | GCACCACAGGTTGACATCC |
| Dgat2 | GCGCTACTTCCGAGACTACTT | GGGCCTTATGCCAGGAAACT |
| Fabp1 | ATGAACTTCTCCGGCAAGTACC | CTGACACCCCCTTGATGTCC |
| Fasn | AGAGATCCCGAGACGCTTCT | GCTTGGTCCTTTGAAGTCGAAGA |
| Fatp1 (Slc27a1) | CTGGGACTTCCGTGGACCT | TCTTGCAGACGATACGCAGAA |
| Fatp2 (Slc27a2) | CCTCCTGATGATCGACCGTG | TCAGCGACTTCTGTGGTAGC |
| Fatp5 (Slc27a5) | TCCTTGGATTCCTTGGCTGC | TACCGCAGGATTTCACCCAC |
| Fgf21 | CTGCTGGGGGTCTACCAAG | CTGCGCCTACCACTGTTCC |
| FXR/Fxr | GAGATGGGCATGTTGGCTGAATG | GAGGTCACTTGTCGCAAGTCACG |
| Gpam | ACAGTTGGCACAATAGACGTTT | CCTTCCATTTCAGTGTTGCAGA |
| Hmgcs2 | CCGGTGTCCCGTCTAATGG | GCAGATGCTGTTTGGGTAGC |
| Hprt | AGTCCCAGCGTCGTGATTAG | TTTCCAAATCCTCGGCATAATGA |
| Hsl | AGGATCGAAGAACCGCAGTC | GTCTTCTGCGAGTGTCACCA |
| Lxra | CTCAATGCCTGATGTTTCTCCT | TCCAACCCTATCCCTAAAGCAA |
| Lxrb | ATGTCTTCCCCCACAAGTTCT | GACCACGATGTAGGCAGAGC |
| Mgl | CACGTGGACACCATCCAGAA | GCCACTAGGATGGAGATGGC |
| Pklr | TCAAGGCAGGGATGAACATTG | CACGGGTCTGTAGCTGAGTG |
| Pparα | CCTGAACATCGAGTGTCGAA | ACGGCAGTACTGGCATTTGT |
| Scd1 | TTCTTGCGATACACTCTGGTGC | CGGGATTGAATGTTCTTGTCGT |
| Shp | TGGGTCCCAAGGAGTATGC | GCTCCAAGACTTCACACAGTG |
| Slc16a6 | ACGTCGTTGGGATCGAGAAG | AGGCCCTGCTGTATATCTTGC |
| Slc25a29 | TGGGACACCCTTTTGACATAGT | CACACTCTCCTGCTTGATGATG |
| Slc25a47 | GCTGTCCATGGATTTTGTTGCT | GCGTATTTGGCCTCCGTCT |
| Srebp-1c | GATGTGCGAACTGGACACAG | GCATGTCTTCGATGTCGTTCAAA |
| Ucp2 | ATGGTTGGTTTCAAGGCCACA | CGGTATCCAGAGGGAAAGTGAT |

All primers are listed in 5’ to 3’ direction

**TABLE S2. Treadmill acclimation protocol.**

|  |  |  |
| --- | --- | --- |
| **Session** | **Time (min)** | **Speed (m/min)** |
| Acclimation 1 | 10 | 0 |
| Acclimation 2 | 10 | 5 |
| Acclimation 3 | 20 | 7 |
| Acclimation 4 | 30 | 8 |