Online Supporting Material

Supplemental Table 1 Primers used for the Q-PCR of the target and reference genes

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| --- | --- | --- | --- | --- |
| **Protein** | **Gene** | **Accession number** | **Primer sequence (from 5′ to 3′)** | **Amplification length (bp)** |
| **Housekeeping control genes** |
| β-ACTIN | *β-ACTIN* | AY550069 | F: CCCAAAGCCAACCGTGAGAAR: CCACGTACATGGCTGGGGTG | 70 |
| GAPDH | *GAPDH* | AF017079 | F: CAGCAATGCCTCCTGTACCA | 74 |
| R: CCACGATGCCGAAGTTGTC |
| ***HSP70* gene** |
| HSP70 | *HSP70* | NM\_001123127.1 | F: TTGGGCGCAAGTTTGCA | 57 |
| R: GGAAAGGCCAGTGCTTCAAG |
| **Tight junction-related genes** |
| CLDN-1 | *CLDN-1* | NM\_001244539.1 | F: GGCAGATCCAGTGCAAAGTCT | 65 |
| R: ACGGGTTGCTTGCAAAGTG |
| OCLN | *OCLN* | NM\_001163647.2 | F: CCTCAGGCAGCCTCATTACAG | 61 |
| R: GGGAGCCCGTTTTGAAGAC |
| ZO-1 | *ZO-1* | XM\_021098827.1 | F: GACTTAAAGCTGCCTCTCAACAGA | 72 |
| R: GGTTTGTTTCAGGCGAAAGG |
| **Selenoprotein encoding genes** |
| GPX1 | *GPX1* | AF532927 | F: GATGCCACTGCCCTCATGA | 80 |
| R: TCGAAGTTCCATGCGATGTC |
| GPX2 | *GPX2* | DQ898282 | F: AGAATGTGGCCTCGCTCTGA | 66 |
| R: GGCATTGCAGCTCGTTGAG |
| GPX3 | *GPX3* | AY368622 | F: TGCACTGCAGGAAGAGTTTGAA | 80 |
| R: CCGGTTCCTGTTTTCCAAATT |
| GPX4 | *GPX4* | NM\_214407 | F: TGAGGCAAGACGGAGGTAAACT | 73 |
| R: TCCGTAAACCACACTCAGCATATC |
| GPX6 | *GPX6* | NM\_001137607 | F: GAGCTGAAGCCTTTTGGTGTAGTT | 72 |
| R: CTTTGCTGGTTCTTGTTTTCCA |
| TRXR1 | *TXNRD1* | AF537300 | F: GATTTAACAAGCGGGTCATGGT | 94 |
| R: CAACCTACATTCACACACGTTCCT |
| TRXR2 | *TXNRD2* | GU181287 | F: TCTCGAAAGGCGGAAAAGAGAT | 69 |
| R: TCGGTCGCCCTCCAGTAG |
| TRXR3 | *TXNRD3* | BX918808 | F: GTGCCCTACGTTTATGCTGTTG | 96 |
| R: TCCGAGCCACCAGCTTTG |
| DIO1 | *DIO1* | AY533206 | F: CATGGCCAAGAACCCTCACT | 70 |
| R: CCAGAAATACTGGGCACTGAAGA |
| DIO2 | *DIO2* | AY533207 | F: CGCTGCATCTGGAAGAGCTT | 73 |
| R: TGGAATTGGGTGCATCTTCA |
| DIO3 | *DIO3* | AY533208 | F: TGAAGTGGAGCTCAACAGTGATG | 71 |
| R: TGTCGTCAGACACGCAGATAGG |
| SELH | *SELENOH* | HM018602 | F: GGAGGCTAGCGTCGTTATTGA | 58 |
| R: AGCGTTGCGCCCATAGAC |
| SELI | *SELENOI* | NM\_001244662.1 | F: GATGGTGTGGATGGAAAGCAA | 72 |
| R: GCCATGGTCAAAGAGTTCTCCTA |
| SELK | *SELENOK* | DQ372075 | F: CAGGAAACCCCCCTAGAAGAA | 78 |
| R: CTCATCCACCGGCCATTG |
| SELM | *SELENOM* | FJ968780 | F: CAGCTGAATCGCCTCAAAGAG | 81 |
| R: GAGATGTTTCATGACCAGGTTGTG |
| SELN | *SELENON* | EF113595 | F: ACCTGGTCCCTGGTGAAAGAG | 58 |
| R: AGGCCAGCCAGCTTCTTGT |
| SELO | *SELENOO* | AK236851 | F: CTTCCGACCCCAGATGGAT | 62 |
| R: GGTTCGACTGTGCCAGCAT |
| SELP | *SELENOP* | EF113596 | F: AACCAGAAGCGCCAGACGCT | 89 |
| R: TGCTGGCATATCTCAGTTCTCAGA |
| SEPS1 | *SELENOS* | AY609646 | F: GAGGCAGAGGCACCTGGAT | 77 |
| R: CTGCTAAAGCCTCCTGTCGTTT |
| SELT | *SELENOT* | AY609428 | F: GGCTTAATAATCGTTGGCAAAGA | 74 |
| R: TGGCCCCATTGCCAGATA |
| SELV | *SELENOV* | GQ478346 | F: CACTGGTCGCCAATGGATTC | 65 |
| R: AGTGGCCAACGGAGAAAGC |
| SELW | *SELENOW* | NM\_213977 | F: CACCCCTGTCTCCCTGCAT | 67 |
| R: GAGCAGGATCACCCCAAACA |
| MSRB1 | *MSRB1* | EF113597 | F: ATCCCTAAAGGCCAAGAATCATC | 86 |
| R: GGCCACCAAGCAGTGTTCA |
| SEP15 | *SELENOF* | EF178474 | F: ACAGCCCTGCCAAGCAGAT | 92 |
| R: AACAGGGAGGCTGGGTAACAC |
| SPS2 | *SEPHS2* | EF033624 | F: TGGCTTGATGCACACGTTTAA | 72 |
| R: TGCGAGTGTCCCAGAATGC |
| **Inflammation-related genes** |
| IL-1β | *IL-1β* | NM\_214055.1 | F: TCTGCCCTGTACCCCAACTG | 64 |
| R: CCAGGAAGACGGGCTTTTG |
| IL-6 | *IL-6* | NM\_001252429.1 | F: ATGCTTCCAATCTGGGTTCAA | 61 |
| R: CACAAGACCGGTGGTGATTCT |
| IL-8 | *IL-8* | NM\_213867.1 | F: GCAAGAGTAAGTGCAGAACTTCGA | 62 |
| R: GGGTGGAAAGGTGTGGAATG |
| IL-10 | *IL-10* | NM\_214041.1 | F: CAGATGGGCGACTTGTTGCT | 64 |
| R: GGCAACCCAGGTAACCCTTAA |
| ICAM-1 | *ICAM-1* | NM\_213816.1 | F: CCGAGTCGTGGTCGTGAAC | 61 |
| R: CACCGGAATGATGATGACCAT |
| IFN-β | *IFN-β* | JN391525.1 | F: TCTCTAGCACTGGCTGGAATGA | 62 |
| R: CTGCCCATCAAGTTCCACAA |
| INOS-2 | *INOS-2* | NM\_001143690.1 | F: AGAGCCAGAAGCGCTATCATG | 76 |
| R: CCCACTGCCCCCTCCTT |
| MCP-1 | *MCP-1* | NM\_214214.1 | F: GCAAGTGTCCTAAAGAAGCAGTGA | 69 |
| R: GCTTGGGTTCTGCACAGATCT |
| TGF-β | *TGF-β* | NM\_214015.1 | F: AGGACCTGGGCTGGAAGTG | 65 |
| R: GGGCCCCAGGCAGAAAT |
| TNF-α | *TNF-α* | NM\_214022.1 | F: CGACTCAGTGCCGAGATCAA | 58 |
| R: CCTGCCCAGATTCAGCAAAG |

Supplemental Table 2 The impact of SS and SeMet supplementation on the mRNA profiles of selenoprotein encoding genes in IPEC-J2 cells subject to HS for 24 h.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Gene | CK1 | HS1 | HS+SS1 | HS+SeMet1 |
| *DIO3* | - | - | - | - |
| *TXNRD3* | - | - | - | - |
| *SELENOO* | 1.00 ± 0.05 | 1.00 ± 0.03 | 1.08 ± 0.04 | 1.04 ± 0.03 |
| *SELENOV* | 1.00 ± 0.08 | 1.16 ± 0.13 | 1.05 ± 0.07 | 1.17 ± 0.08 |

1 Values are presented as means ± SE, *n* = 6.