

### Supplementary materials

Supplementary Table. 1 Ingredient composition and nutrient levels of the basal diet

| Product                       | ND      |        | HFrD    |       |
|-------------------------------|---------|--------|---------|-------|
|                               | gm      | kcal   | gm      | kcal  |
| Ingredient                    |         |        |         |       |
| Casein                        | 200     | 800    | 200     | 800   |
| L-Cystine                     | 3       | 12     | 3       | 12    |
| Corn Starch                   | 506.2   | 2024.8 | 156.2   | 624.8 |
| Maltodextrin 10               | 125     | 500    | 125     | 500   |
| Sucrose                       | 68.8    | 275.2  | 68.8    | 275.2 |
| Fructose                      | 0       | 0      | 350     | 1400  |
| Cellulose                     | 50      | 0      | 50      | 0     |
| Soybean Oil                   | 25      | 225    | 25      | 225   |
| Lard                          | 20      | 180    | 20      | 180   |
| Mineral Mix S10026            | 10      | 0      | 10      | 0     |
| Dicalcium phosphate           | 13      | 0      | 13      | 0     |
| Calcium carbonate             | 5.5     | 0      | 5.5     | 0     |
| Potassium citrate monohydrate | 16.5    | 0      | 16.5    | 0     |
| Vitamin Mix V10001            | 10      | 40     | 10      | 40    |
| Choline Bitartrate            | 2       | 0      | 2       | 0     |
| FD&C yellow dye#5             | 0.04    | -      | -       | -     |
| FD&C blue dye#1               | 0.01    | -      | -       | -     |
| Total                         | 1055.05 | 4057   | 1055.00 | 4057  |
|                               |         | kcal%  |         | kcal% |
| Protein                       |         | 20     |         | 20    |
| Carbohydrate                  |         | 70     |         | 70    |
| Fat                           |         | 10     |         | 10    |
| Total                         |         | 100    |         | 100   |

Supplementary Table 2. Primer sequences used in RT-qPCR

| Gene                            | Primer sequences (5' to 3')                               |
|---------------------------------|-----------------------------------------------------------|
| <i>TNF-<math>\alpha</math></i>  | F: CCACCACGCTCTTCTGTCTA<br>R: GGTCTGGGCCATAGAACTGA        |
| <i>IL-6</i>                     | F: CTGATGCTGGTGACAACCAC<br>R: TCCACGATTTCCCAGAGAAC        |
| <i>CCL2</i>                     | F: CCCAATGAGTAGGCTGGAGA<br>R: TCTGGACCCATTCCTTCTTG        |
| <i>CCL3</i>                     | F: ACCTGGAACTGAATGCCTGA<br>R: GTCCCTCGATGTGGCTACTT        |
| <i>CPT1A</i>                    | F: GACTCCGCTCGCTCATTCC<br>R: GGCAGATCTGTTTGAGGGCT         |
| <i>PPAR<math>\alpha</math></i>  | F: TGCCTTCCCTGTGAACTGAC<br>R: TGGGGAGAGAGGACAGATGG        |
| <i>PGC-1<math>\alpha</math></i> | F: CAGTCCTTCCTCCATGCCTG<br>R: GGGTTTGTTCTGATCCTGTGG       |
| <i>Nrf2</i>                     | F: GCCCTCAGCATGATGGACTT<br>R: AACTTGTACCGCCTCGTCTG        |
| <i>NQO-1</i>                    | F: GTAGCGGCTCCATGTACTCT<br>R: AGGATGCCACTCTGAATCGG        |
| <i>HO-1</i>                     | F: CAGGTGTCCAGAGAAGGCTT<br>R: GCTTGTTGCGCTCTATCTCC        |
| <i>SOD1</i>                     | F: CAGTGCAGGACCTCATTTTAATC<br>R: CCAGCATTTCCAGTCTTTGTACT  |
| <i>SOD2</i>                     | F: GATGTTACAACCTCAGGTCGCTCT<br>R: GGCTGTCAGCTTCTCCTTAAACT |
| <i>CAT</i>                      | F: CGATATCACCAGATACTCCAAGG<br>R: GATCCCAGTTACCATCTTCAGTG  |
| <i>Gpx6</i>                     | F: TTTGCTGTTACACCATGCAGC<br>R: GTGCCAGTCACCCCTTTGTT       |
| <i>GSS</i>                      | F: CCGACACGTTCTCAATGTCC<br>R: GGCACGCTGGTCAAATATGT        |
| <i>GSTT2</i>                    | F: CTCATGTCTCTGGAGGAGTTGAT<br>R: GAGGGGGTACTGGTAACATTTTC  |
| <i>GSTT3</i>                    | F: AGAGTGTGGCCATCTTGTTGTAT<br>R: AACACAGGGAACATCATCTTCTG  |
| <i>TLR2</i>                     | F: GAGGTGCGGACTGTTTCCTT<br>R: GAGCCAAAGAGCTCGTAGCA        |
| <i>TLR4</i>                     | F: AGATCTGAGCTTCAACCCCTT<br>R: GTCTCCACAGCCACCAGATT       |

|                                 |                           |
|---------------------------------|---------------------------|
| <i>MyD88</i>                    | F: AGGCATCACCACCCTTGATG   |
|                                 | R: CCGGATCATCTCCTGCACAA   |
| <i><math>\beta</math>-actin</i> | F: GGCTGTATTCCCCTCCATCG   |
|                                 | R: CCAGTTGGTAACAATGCCATGT |

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