Supplementary material

Supplementary Table 1. Composition of diets

| Ingredients (g·kg⁻¹ diet)          | 30NR | 0NR  |
|-----------------------------------|------|------|
| Casein                           | 100.0| 100.0|
| Wheat starch                     | 233.1| 233.1|
| Gelatin (hydrolysed)             | 100.0| 100.0|
| Maltodextrin                     | 100.0| 100.0|
| Sugar                            | 100.0| 100.0|
| Dextrose                         | 50.0 | 50.0 |
| Arbocel B800                     | 50.0 | 50.0 |
| Linseed oil                      | 4.0  | 4.0  |
| Palm oil                         | 206.0| 206.0|
| Mineral mixture AIN-93*           | 35.0 | 35.0 |
| Vitamin mixture AIN-93*           | 10.0 | 10.0 |
| L-cystine                        | 3.25 | 3.25 |
| L-phenylalanine                  | 4.32 | 4.32 |
| Choline chloride 50%             | 1.55 | 1.55 |
| Nicotinamide riboside (mg·kg⁻¹ diet) | 30.0 | 0.0  |
| Calculated amount of L-tryptophan (%) | 1.15 | 1.15 |
| Calculated energy (kcal·kg⁻¹)    | 4653 | 4653 |
| Carbohydrate (% of total energy) | 41   | 41   |
| Fat (% of total energy)          | 40   | 40   |
| Protein (% of total energy)      | 19   | 19   |

* Contains no vitamin B₃ but sufficient minerals and the other vitamins, including iron, vitamin B₁, B₂ and B₆ at the recommended AIN93 levels (Reeves et al., 1993)
| Gene name | Forward primer | Reverse primer | Tissue  |
|-----------|----------------|----------------|---------|
| Mttp      | GTGGAGGGAATCCTGATGGTGA | TGATCTTAGGTTGTAATTTGCCC | Liver   |
| Dgat2     | CTATTTGGCTACGTTGGCTGGTAAC | TTGGAGAGCAAGTAGTCTATGGTGTC | Liver   |
| ApoB      | TACTTCCACCCACAGTCCCC | AGGGAGCCTAGCAATCTGGA | Liver   |
| Anp32a    | CCGTGAGGTTGCAGGTTATT | CTCATTACATCGAGGAGGCGT | WAT     |
| Map2k1    | TGGGCAGAGACACCTACATG | TGGCATCGGAGGAGGATG | WAT     |
| Mapk1     | ATGACCAAGTGATGAGGCC | AGCCCTTGTCCCTGACCAATT | WAT     |
| Mthfs     | GTCTCTCCTCCTACGCGA | GGTCAAGTCCACCAGTGGAATA | WAT     |
| Mthfsl    | CGGTGCCCTGACCAGGTAA | GCAATACCCCTTGCTGAG | WAT     |
| Qdpr      | CATTGCCGTGCTCCCGTCA | TCCTGAGTTTGGCCGTTTTG | WAT     |
| Slc2a4 (glut4) | CCATCCCTGGTTCTATGTTG | GTTTGCCCCTCAGTCAATT | WAT     |
| Tnk2      | ACTTTGGGCTGATGCGAGCCT | AAGGTGCGTCTCTCCAGGCTCT | WAT     |
| Canx      | GCAGGCGACCTATGATTTGACA | GCTCCAAAACCAAATGCACTGAAAG | Liver   |
| Hprt1     | TGACACTGGTAAAACAATGCAAATTTTGGT | GAGGTCCCTTTCACGACAGGACT | Liver   |
| Rps15     | CGGAGATGGTGATGGATGGTACGATGG | ACGGGTTTGTAGGGTAGGAGAAGC | Liver, WAT |
| B2m       | CCCCActGAGACTGATACTACAGC | AGAAACTGATTTGTAATTAAGGAGGTTT | WAT     |

Annealing temperature was 60°C. Underlined genes are used as reference genes.