## Supplementary Table 1. Fatty acid composition of soybean oil and fish oil in experimental diets

|  |  |  |
| --- | --- | --- |
| Item | Fish oil | Soybean oil |
| Fatty acids(g/100g total fatty acids) | 　 | 　 |
| 14:0 | 7.59 | n.d1 |
| 16:0 | 17.87 | 10.57 |
| 16:1 | 9.98 | n.d |
| 18:0 | 3.54 | 3.79 |
| 18:1 | 12.52 | 23.76 |
| 18:2(n-6) | 1.19 | 53.89 |
| 18:3(n-3) | 0.80 | 8.00 |
| 20:0 | 3.15 | n.d |
| 20:1 | 1.72 | n.d |
| 20:5(n-3) | 21.12 | n.d |
| 22: 1 | n.d1 | n.d |
| 22:5(n-3) | 2.28 | n.d |
| 22:6(n-3) | 14.18 | n.d |
| n-6:n-3 | 0.03 | 6.70 |

n.d=not detectable; n-3 = n-3 poly unsaturated fatty acid; n-6 = n-6 ploy unsaturated fatty acid; n-6: n-3=n-6 polyunsaturated fatty acids: n-3 polyunsaturated fatty acids.

## Supplementary Table 2. Primers used for all target genes used for real-time PCR

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Genes | 　Primer sequence (5’–3’) | Product size(bp) | GenBank accession | Reference |
| *β*-actin | F: 5'-TCATCACCATCGGCAACGAG-3' | 217 | DQ845171.1 |  |
|  | R: 5'-GCCGTGATCTCCTTCTGCAT-3' |  |  |  |
| SOD  | F:5'-GAGACCTGGGCAATGTGACT-3' | 189 | GU944822.1 | [[1](#_ENREF_1)] |
|  | R:5'-CTGCCCAAGTCATCTGGTTT-3' |  |  |  |
| GPx | F:5'-GCTCGGTGTATGCCTTCTCT-3' | 103 | NM\_214201.1 | [[1](#_ENREF_1)] |
|  | R:5'-AGCGACGCTACGTTCTCAAT-3' |  |  |  |
| CAT | F:5'-ACTTCTGGAGCCTACGTCCT-3' | 93 | NM\_214301.2 | [[1](#_ENREF_1)] |
|  | R:5'-ATCCGTTCATGTGCCTGTGT-3' |  |  |  |
| IL-1β | F:5'-TCTGCCCTGTACCCCAACTG-3' | 64 | NM214055.1 | [[2](#_ENREF_2)] |
|  | R:5'-CCAGGAAGACGGGCTTTTG-3' |  |  |  |
| IL-6 | F:5'-ATCAGGAGACCTGCTTGATG-3' | 177 | NM\_214399 | [[3](#_ENREF_3)] |
|  | R:5'-TGGTGGCTTTGTCTGGATTC-3' |  |  |  |
| TNF-α | F:5'-CCAATGGCAGAGTGGGTATG-3' | 116 | NM\_214022 | [[3](#_ENREF_3)] |
|  | R:5'-TGAAGAGGACCTGGGAGTAG-3' |  |  |  |
| IL-10 | F:5'-GGTTGCCAAGCCTTGTCAG-3' | 202 | NM\_214041 | [[3](#_ENREF_3)] |
|  | R:5'-AGGCACTCTTCACCTCCTC-3' |  |  |  |
| TAB1 | F:5'-CAGAGTTTGCCAAGCAGACC-3' | 175 | NM\_001244067.1 |  |
|  | R:5'-CTCAGCTCGCCCAGAGGATA-3' |  |  |  |
| TAK1 | F:5'-GGCTGTTCATAACGGTACTC-3' | 204 | KU504629.1 |  |
|  | R:5'-TGGCCTTCATCTGAATACTG-3' |  |  |  |
| PTGS2 | F:5'-ATGAACGGCTGTTCCAGACG-3'  | 218 | NM\_214321.1 |  |
|  | R:5'-AATCTGGAAGGCGTCAGGCA-3' |  |  |  |
| ALOX5 | F: 5'-GACCCCTGCACTCTGCAGTT-3'  | 201 | XM\_021072736.1 |  |
|  | R:5'-GGTCTGGTGGACGTGGAAGT-3' |  |  |  |
| GPR120 | F:5'-CAGATCACCAAGGCATCAAG-3' | 206 | HQ662564.1 |  |
|  | R:5'-GGCCAGATGACCAGGTTTTG-3' |  |  |  |
| TLR-4 | F:5'-TGTGCGTGTGAACACCAGAC-3' | 136 | NM\_001113039 | [[3](#_ENREF_3)] |
|  | R:5'-AGGTGGCGTTCCTGAAACTC-3' |  |  |  |
| NF-κB | F:5'-TGCTGGACCCAAGGACATG-3' | 60 | AK348766.1 | [[2](#_ENREF_2)] |
|  | R:5'-CTCCCTTCTGCAACAACACGTA-3' |  |  |  |
| PPARγ | F: 5'-GTGCGATCTTAACTGTCGGA-3' | 192 | NM214379.1 |  |
| 　 | R:5'-AGGTCAGCAGACTCTGGGTT-3' | 　 | 　 | 　 |

SOD superoxide dismutase, GPx glutathione peroxidase, CAT catalase, IL-1β Interleukin-1β, IL-6 Interleukin-6, TNF-α Tumor necrosis factor α, IL-10 Interleukin-10, TAB1 TAK1 binding protein 1, TAK1 Transforming growth factor-β activated kinase 1, PTGS2 Prostaglandin-endoperoxide synthase 2, ALOX5 lipoxygenase enzyme5, GPR120 G-protein coupled receptor 120, TLR4 Toll-like receptor 4, NF-κB Nuclear factor-B, PPARγ Peroxisome proliferator activated receptor gamma

## Reference

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