**Supplementary Table 4**. qRT-PCR primer sequences

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| **Gene** | **Primer Sequences** |
| β-actin | Forward: 5’-AGGGCAGTGATCTCCTTCT-3’ |
|  | Reverse:5’-CAGGGCAGTGATCTCCTTCT-3’ |
| PDCD1 | Forward: 5’-CCCAAGGCGCAGATCAAAGAG-3’ |
|  | Reverse:5’-CAGGACCCAGACTAGCAGC-3’ |
| HAVCR2 | Forward: 5’-AGACAGTGGGATCTACTGCTG-3’ |
|  | Reverse:5’CCTGGTGGTAAGCATCCTTGG-3’ |
| CTLA4 | Forward: 5’-TGGGGAATGAGTTGACCTTC-3’ |
|  | Reverse:5’GCACGGTTCTGGATCAATTA-3’ |
| LAG3 | Forward: 5’-GCTGCATCCTCACCTACAGAG-3’ |
|  | Reverse:5’GCTCCAGCGTACACTGTCAAG-3’ |
| ENTPD1 | Forward: 5’-AGGTGCCTATGGCTGGATTAC-3’ |
|  | Reverse:5’CCAAAGCTCCAAAGGTTTCCT-3’ |
| ICOS | Forward: 5’-ACAACTTGGACCATTCTCATGC-3’ |
|  | Reverse:5’TGCACATCCTATGGGTAACCAG-3’ |
| EOMES | Forward: 5’-CTGCCCACTACAATGTGTTCG-3’ |
|  | Reverse:5’GCGCCTTTGTTATTGGTGAGTT-3’ |
| TNFα | Forward: 5’-CGAGTGACAAGCCTGTAGC-3’ |
|  | Reverse:5’GGTGTGGGTGAGGAGCACAT-3’ |

**Abbreviations：** CTLA4, cytotoxic T-lymphocyte antigen 4; LAG3, lymphocyte activation gene 3; ICOS, inducible costimulator; TNF-α, tumor necrosis factor-α.