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| **Gene** | **Species** | **Primer** | **Tm (OC)** | **Amplicon size (bp)** |
| *cyp19a1a* | bluehead, spotty, kyusen | FW: GGCAGACTGTGCTCATCAAA | 60 | 690 |
|  | RV: GCAGAGTCACCAGGATGGAT | 60.1 |  |
| *amh*  | bluehead, kyusen | FW: ACGCCTCATCAACAAAAACC | 60 | 685 |
|  | RV: AGCTCACACAGGAAGGAGGA | 60 |  |
|  | spotty | FW: CTTTGTGGACGATGTGGTTG | 60 | 687 |
|  |  | RV: TCAAGCTGAAGGGAAGAGGA | 60.1 |  |
| *cyp19a1b*  | bluehead, spotty, kyusen | FW: GTGGGAATCTGTGTGAGCWC | 55.8 | 710 |
|  | RV: TTCAGAATGATGTTGGTTCCTTTTG | 53.9 |  |
| *it* | bluehead, kyusen | FW: GTGTCCGTGTGCCTTCTTTT | 60.1 | 641 |
|  | RV: TGCAGATATGTGGATGACCA | 58.4 |  |
|  | spotty | FW: GTGTCCGTGTGCCTTCTTTT | 60.2 | 634 |
|  |  | RV: TCTGGATGACCATAGTCAGTATTCA | 59.9 |  |
| *ef1a* | bluehead, spotty, kyusen | FW: TGCGGWGGAATCGACAAGAG | 57.2 | 699 |
|  | RV: CAACACCAGCAGCAACAATC | 57.5 |  |
| *18S* | bluehead, spotty, kyusen | FW: GAAATTCTTGGACCGGCGC | 57.2 | 700 |
|  | RV: TTATGACCCGCGCTTACTGG | 57.3 |  |
| *g6pd* | bluehead, spotty,kyusen | FW: CCTCATGGTBCTCAGRTTTGG | 56 | 735 |
|  | RV: CTGCGHACRAAGTGCATCTG | 56.4 |  |