

**Table S1. Sequences of primer pairs used in qPCR analyses of transcript expression levels in lumpfish (*Cyclopterus lumpus*) larvae.**

Gene name (symbol) <sup>a</sup>	Trinity ID from NCBI SRA acc. no. SRP238224	Nucleotide sequence (5'-3')	Amplicon Size (bp)	Efficiency (%)
C-C motif chemokine-like 19 ( <i>ccl19</i> )	DN10492_c0_g1_i4	F: GCTCAGGTACCAACGGACTG R: CGTGTCTCCGATCTGTCTC	94	94.33
cyclooxygenase-2 ( <i>cox2</i> )	DN750_c1_g1_i1	F: GAATTCCTCACCTGGGTCAA R: ATGGCATCTCTGAGGAAGGA	122	99.18
hepcidin anti-microbial peptide ( <i>hamp</i> )	DN2993_c0_g1_i4	F: GCTCGCCTTTATTTGCATTC R: ATATGCCGCAACTGGAGTGT	100	93.36
interleukin 8_a ( <i>il8a</i> )	DN21169_c0_g1_i2	F: AAGTCATAGCCGGACTGTCG R: CCCTGCTGATGGAGTTGTCT	109	100.39
interleukin 8_b ( <i>il8b</i> )	DN4613_c0_g1_i4	F: GTCTGAGAAGCCTGGGAGTG R: TCAGAGTGGCAATGATCTCG	138	98.15
interleukin 10 ( <i>il10</i> )	DN41536_c0_g1_i1	F: AACCAGTGCTGTCGTTTCGT R: TGTCCAAGTCATCGTTTGCT	106	95.24
ATP-dependent RNA helicase lgp2 ( <i>lgp2</i> )	DN49186_c0_g1_i1	F: GCAACCTGGTGGTACGCTAT R: CTCGGCGACCACTGAATACT	104	81.54
interferon-induced GTP-binding protein_a ( <i>mxα</i> )	DN526_c0_g1_i6	F: TGCACAGACTCAAGCAGAGC R: CCACACTTGAGCTCCTCTCC	144	85.43
interferon-induced GTP-binding protein_b ( <i>mxβ</i> )	DN526_c0_g1_i3	F: TTGCGGCTTGGA AAAAATATC R: TCCACGGTACCTTCGTTTCAT	95	92.78
interferon-induced GTP-binding protein_c ( <i>mxγ</i> )	DN237_c1_g1_i1	F: GGAAGTGGCAGACATTGTGA R: CTGCTGCAATCTCCTTCTCC	131	90.70
signal transducer and activator of transcription 1 ( <i>stat1</i> )	DN3250_c2_g1_i2	F: CTCAAGATGCTGGACTGCAA R: ATGCTCTCGATCCACTTGCT	104	84.99
toll-like receptor 3 ( <i>tlr3</i> )	DN30532_c0_g1_i1	F: AGAGGGCAGGGAATTTGAGT R: TGCACGAGTCATTCTCCAAG	101	90.29

C-C motif chemokine-like 20 ( <i>ccl20</i> )	DN9266_c0_g1_i3	F: ATGGGCTACACCATCCAGAC R: CCACTTGGATGAAGGGTCAG	102	80.07
immunoglobulin heavy chain variable region a ( <i>igha</i> )	DN1665_c0_g3_i2	F: AGGACTGGAGTGGATTGGAA R: TGCATGGTCTGTCCGTTTAG	129	91.00
immunoglobulin heavy chain_b ( <i>ighb</i> )	DN1665_c0_g4_i1	F: GAATGGAACAAGGGGACAAA R: CGGTCGTTGAGTCTCTCCTC	108	90.60
interferon regulatory factor 7 ( <i>irf7</i> )	DN6933_c0_g1_i2	F: GGCTCATAGAGCAGGTGGAG R: CTGTCTTCGTCGTTGCAGTC	115	81.89
HLA class II histocompatibility antigen gamma chain ( <i>cd74</i> )	DN13708_c0_g1_i6	F: ACGCCAAGACACCTCTGACT R: GGAAGGTCTCGTTGAACTGC	108	96.45
serum amyloid A 5 ( <i>saa5</i> )	DN41536_c0_g1_i1	F: AGAGTGGGTGCAGGAAAGAA R: GAAGTCCTGGTGGCCTGTAA	116	95.9
T-cell surface glycoprotein CD4_a ( <i>cd4a</i> ) <sup>c</sup>	DN9678_c0_g2_i9	F: CGTTAAGGTGCTGCAGATCA R: GCGGAAACCATTTCAGTTGT	122	84.85
T-cell surface glycoprotein CD4_b ( <i>cd4b</i> ) <sup>c</sup>	DN24146_c0_g1_i7	F: TGTGGGGTTAGCTCCTTCAC R: TGTTTGCATCTCACCTTTG	138	94.24
interleukin 1 beta ( <i>il1b</i> ) <sup>c</sup>	DN22448_c0_g2_i1	F: ATTGTGTTTCGAGCTCGGTTTC R: CGAACTATGGTCCGCTTCTC	98	97.37
toll-like receptor 5_a ( <i>tlr5a</i> ) <sup>c</sup>	DN29432_c0_g1_i1	F: TGGACGAGTTTCAGCAGTTG R: AGACCCCTCACATGTCCAAG	129	95.58
toll-like receptor 5_b ( <i>tlr5b</i> ) <sup>c</sup>	DN55824_c0_g1_i5	F: CCATCATGCACCTTTGTACGG R: TGCTGTTGATCTCCCTGATG	127	88.57
tumour necrosis factor alpha ( <i>tfa</i> ) <sup>c</sup>	DN26791_c0_g1_i1	F: TTAGAAGGGAGCTGCGAAGA R: ATGACGATCCGGTTGTTCTC	119	90.06
lymphocyte antigen 6 complex locus protein G6f ( <i>ly6g6f</i> ) <sup>c</sup>	DN12606_c0_g1_i8	F: TCCATGTGGACGTGACTGTT R: AACGGTGTCTGAGCCTGAGT	100	88.17
T-cell surface glycoprotein CD8 alpha chain ( <i>cd8a</i> ) <sup>c</sup>	DN11791_c0_g1_i1	F: GCTTTGCTCTCTGGGCATAC R: TCCGGGTTCTTAAGTGGTTG	104	89.62
immunoglobulin mu heavy chain_a ( <i>ighma</i> ) <sup>c</sup>	DN121_c0_g3_i3	F: CAGCTTCTGGATTAGACTTTGA R: GATGTTGTTACTGTTGTGTTGG	107	90.17
immunoglobulin mu heavy chain_c ( <i>ighmc</i> ) <sup>c</sup>	DN121_c0_g3_i4	F: CAACATCCGGAATCACATTCAG R: GATTTTGAGGTCCCACTACCAT	112	87.68

interferon gamma ( <i>ifng</i> ) <sup>c</sup>	DN81754_c0_g1_i1	F: CTCTGGCTGGTTGTCTGTCA R: TCGCTCTCTCGATGGAATCT	105	90.75
immunoglobulin delta heavy chain ( <i>ighd</i> ) <sup>c</sup>	DN1665_c0_g2_i7	F: GGAGACAGTGTGTGCTGGA R: GGGCTTCAGGAAATCAACA	121	88.41
toll-like receptor 7 ( <i>tlr7</i> ) <sup>c</sup>	DN760_c1_g2_i1	F: GGCAAACCTGGAAGAATTGGA R: GAAGGGATTTGAGGGAGGAG	100	90.55
radical S-adenosyl methionine domain containing protein 2 / viperin ( <i>rsad2</i> ) <sup>c</sup>	DN16769_c0_g1_i1	F: AGGAGAGGGTGAAGGGAGAG R: ATCCAGAGGCAGGACAAATG	133	98.47
<b>Normaliser<sup>b</sup></b>				
eukaryotic translation initiation factor 3 subunit D ( <i>etif3d</i> )	DN7623_c0_g1_i5	F: AGCCAGATCAACCTGAGCAT R: AGGCTGTACACCCGAATCAC	134	86.49
60S ribosomal protein L32 ( <i>rpl32</i> )	DN3569_c0_g1_i2	F: GTAAGCCCAGGGGTATCGAC R: GGGCAGCATGTACTTGGTCT	107	80.08
elongation factor 1 alpha_a ( <i>ef1a_a</i> )	DN12280_c0_g1_i3	F: CAAGGGATGGAAGATTGAGC R: TGTTCCGATACCTCCGATTT	151	83.81
elongation factor 1 alpha_c ( <i>ef1a_c</i> )	DN12280_c0_g1_i4	F: AAGCGCTTTGAGGAAATCACC R: GCTCGACCTTCCAACCTTG	160	*95.60
polyadenylate-binding protein 1_a ( <i>pabpc1_a</i> )	DN6565_c0_g2_i3, DN6565_c0_g2_i4	F: CAAGAACTTTGGGGAGGACA R: TGACAAAGCCAAATCCCTTC	125	84.76
polyadenylate-binding protein 1_b ( <i>pabpc1_b</i> )	DN6565_c0_g2_i5	F: GACTCAGGAGGCAGCTGAAC R: TCGCGCTCTTTACGAGATTT	102	88.11

\*4-pt standard curve

<sup>a</sup>Expression levels of the transcripts of interest were normalized to expression levels of these two transcripts.

<sup>b</sup>Candidate endogenous control transcripts

<sup>c</sup>Expression levels of these transcripts were low in lumpfish larvae; efficiencies are those reported for lumpfish head kidney (Gnanagobal et al., submitted).