

**Supplemental Table 1.** Oligonucleotide primers used in this study.

Name	Target gene	Primer Sequences
<i>Mus musculus</i> $\beta$ -Actin (qRT-PCR)	XM_030254057.1	F 5'-ACGCAGAGGGAAATCGTGC GTGAC-3' R 5'-ACGCGGGAGGAAGAGGATGCGGCAGTG-3'
<i>Anaplasma phagocytophilum</i> 16S (qRT-PCR)	NC_007797	F 5'-CCCTAAGGCCTTCTCACTC-3' R 5'-CAGCCACACTGGAAGTGAAGA-3'
<i>Anaplasma phagocytophilum</i> 16S_full	NC_007797	F 5'- TCCTGGCTCAGAACGAACG-3' R 5'- GTCACTGACCCAACCTTAAATGG-3'
<i>Borrelia burgdorferi</i> FlaB (qRT-PCR)	MN954474.1	F 5'-TTGCTGATCAAGCTCAATATAACCA-3' R 5'-TTGAGACCCTGAAAGTGATGC-3'
<i>Ixodes scapularis</i> Actin (qRT-PCR)	XM_029977298.1	F 5'-GCCGGGACCTTACAGACTATC-3' R 5'-CACGGACAATTTACGCTCG-3'
<i>Ixodes scapularis</i> IRE1 $\alpha$ (qRT-PCR)	XM_029972190.1	F 5'-GAGAAGGCCATCTTCGTCCG-3' R 5'-GAGTAGCCTGGGCAGCATAG-3'
<i>Ixodes scapularis</i> TRAF2 (qRT-PCR)	XM_029977983.1	F 5'-CCGCGAAAAGAACAGCTTAC-3' R 5'-TACCACGTTGGACTCCTTCC-3'
<i>Ixodes scapularis</i> BiP (qRT-PCR)	XM_002433611.2	F 5'-ATCGTGTGGTGTCTAGCGG-3' R 5'-CGATACCGATGACTGTGCCG-3'
<i>Ixodes scapularis</i> PERK (qRT-PCR)	XM_029994352.4	F 5'-ATCCACTCCTGTA CTGGGC-3' R 5'-TTCACCCGATTCTGAAGGCT-3'
<i>Ixodes scapularis</i> HRI (qRT-PCR)	XM_029992945.4	F 5'-TATTCCGAAGCTGTCTCCGC-3' R 5'-GTCAGCAGGTTGTAGCCCTA-3'
<i>Ixodes scapularis</i> GCN2 (qRT-PCR)	XM_029969993.4	F 5'-GCCCCAAGAAAGCATGACTC-3' R 5'-TGCTTCGTTGGGATACTGGT-3'
<i>Ixodes scapularis</i> eIF2 $\alpha$ (qRT-PCR)	XM_040212362.2	F 5'-ATCCGGTCCATCAACAAGCT-3' R 5'-TCCTTGTCACCCTGATGAC-3'
<i>Ixodes scapularis</i> ATF4 (qRT-PCR)	XM_029967345.4	F 5'- AGTTGTCTACTGCCCGTAC-3' R 5'- TCCCAGTCGACTTCCATGTC-3'
<i>Borrelia burgdorferi</i> cp9 (PCR)	BBC10	F 5'-GAACTATTTATAATAAAAAGGAGAGC-3' R 5'-ATCTTCTTCAAGATATTTTATTATAC-3'
<i>Borrelia burgdorferi</i> cp26 (PCR)	BBB19	F 5'-AATAATTCAGGGAAAGATGGG-3' R 5'-AGGTTTTTTTTGGACTTTCTGCC-3'
<i>Borrelia burgdorferi</i> lp17 (PCR)	BBD10	F 5'-CAAAC TTATCAAATAGCTTATC-3' R 5'-ACTGCCACCAAGTAATTTAAC-3'
<i>Borrelia burgdorferi</i> lp25 (PCR)	BBE16	F 5'-ATGGGTAAAATATTATTTTTGGG-3' R 5'-AAGATTGATTTTTGGCAAAAAATTTTC-3'
<i>Borrelia burgdorferi</i> lp28-1 (PCR)	BBF20	F 5'-ATGAACAAAAATTTTCTATTTTC-3' R 5'-GTTGCTTTTGCAATATGAATAGG-3'
<i>Borrelia burgdorferi</i> lp28-2 (PCR)	BBG02	F 5'-TCCCTAGTTCTAGTATCTACTAGACCG-3' R 5'-TTTTTTTTGTATGCCAATTGTATAATG-3'
<i>Borrelia burgdorferi</i> lp28-3 (PCR)	BBH06	F 5'-GATGTTAGTAGATTAATCAG-3' R 5'-TAATAAAGTTTGCTTAATAGC-3'
<i>Borrelia burgdorferi</i> lp28-4 (PCR)	BBI16	F 5'-CAGGCCGGATTTAATATCGA-3' R 5'-GTTTATATTTTGACACTATAAG-3'
<i>Borrelia burgdorferi</i> lp36 (PCR)	BBK19	F 5'-AAGTTTATGTTTATTATTGC-3' R 5'-ATTGTTAGTTTTTCTTTTCC-3'
<i>Borrelia burgdorferi</i> lp38 (PCR)	BBJ34	F 5'-AAATTCTATGGAAGTGATG-3' R 5'-TTTCTATTTATTTTAGGC-3'

<i>Borrelia burgdorferi</i> lp54 (PCR)	BBA16	F 5'-GCACAAAAGGTGCTGAG-3' R 5'-TTTTAAAGCGTTTTTAAGC-3'
<i>Borrelia burgdorferi</i> lp56 (PCR)	BBQ56	F 5'-AAGATTGATGCAACTGGTAAAG-3' R 5'-CTGACTGTAAGTATGATCC-3'
<i>Ixodes scapularis</i> eIF2 $\alpha$ _siRNA_438	XM_040212362.2	F 5'-AACCGGAAGACATCACGAAATCCTGTCTC-3' R 5'-AAATTCGTGATGTCTTCCGGCCTGTCTC-3'
<i>Ixodes scapularis</i> eIF2 $\alpha$ _scRNA	N/A	F 5'-AAGCATAGCGGAACCTAACAAACCTGTCTC-3' R 5'-AATTGTTAGGTTCCGCTATGCCCTGTCTC-3'
<i>Ixodes scapularis</i> ATF4_siRNA_863	XM_029967345.4	F 5'-AAGCAGAGTCCTTTCCGGAAACCTGTCTC-3' R 5'-AATTTCCGGAAAGGACTCTGCCCTGTCTC-3'
<i>Ixodes scapularis</i> ATF4_scRNA	N/A	F 5'-AAGGCACAGCTTCGCAGTAATCCTGTCTC-3' R 5'-AAATTAAGTGCAGGCTGTGCCCTGTCTC-3'
<i>Ixodes scapularis</i> PERK_siRNA_1064	XM_029994352.4	F 5'-AAGCATAGAATGGAAGCCCTACCTGTCTC-3' R 5'-AATAGGGCTTCCATTCTATGCCCTGTCTC-3'
<i>Ixodes scapularis</i> PERK_scRNA	N/A	F 5'-AAGGTAACAAACCGGAGTCATCCTGTCTC-3' R 5'-AAATGACTCCGGTTTGTACCCTGTCTC-3'
<i>Ixodes scapularis</i> HRI_siRNA_231	XM_029992945.4	F 5'-AAGGATCATACTCCTGATCTTCCTGTCTC-3' R 5'-AAAAGATCAGGAGTATGATCCCCTGTCTC-3'
<i>Ixodes scapularis</i> HRI_scRNA	N/A	F 5'-AAACTATTCGTCTACTCGGTACCTGTCTC-3' R 5'-AATACCGAGTAGACGAATAGTCCTGTCTC-3'
<i>Ixodes scapularis</i> GCN2_siRNA_372	XM_029969993.4	F 5'-AACCAACACAATACACCTCAACCTGTCTC-3' R 5'-AATTGAGGTGTATTGTGTTGGCCTGTCTC-3'
<i>Ixodes scapularis</i> GCN2_scRNA	N/A	F 5'-AAACCAACATAACCATAACACCCCTGTCTC-3' R 5'-AAGGTGTTATGGTATGTTGGTCCTGTCTC-3'
<i>Ixodes scapularis</i> Nrf2_siRNA_1058	XM_042293400.1	F 5'-AACCTTCATGCATGGATCCTTCCTGTCTC-3' R 5'-AAAAGGATCCATGCATGAAGGCCTGTCTC-3'
<i>Ixodes scapularis</i> Nrf2_scRNA	N/A	F 5'-AAGCTTACCGAGTCTCCTATTCCTGTCTC-3' R 5'-AAAATAGGAGACTCGGTAAGCCCTGTCTC-3'
<i>Ixodes scapularis</i> Nrf2 (qRT-PCR)	XM_042293400.1	F 5'-GTCTTCGACTTCCGGTTTGA-3' R 5'-GTAGGCACTTCGGTGCTCTC-3'