|  |  |
| --- | --- |
| ***Table 9. FASTA Files Used During this Study*** | |
| Details of the Sequence | FASTA File |
| Exon transcript of Q9VYG2 acquired from the EnsemblMetazoa Genome Browser | >chromosome:BDGP6.28:X:13157445:13159508:-1  Ttgacgccattttacaggcgaaattgtgtgtgtgtttgacgcgttgttgtattgaaacaaaaaggcagaaattttccttcgtct  Gcaaagggcaattgtttacggctggaaaaaagggaggacttcgtagcaaagatgtcgcaacgctttgcacctggccaagc  Gccggtgcagtcgcgttatcagccaccaccaccggcgcccggcatgcgtccctatccgccgccaggcgcctcttttccaccg  Cgcgggtttcccctgcatccgaacactactcaacctgttcccggcacggcgaacgtggccggggtaccgggagttcctggag  Tacccggcgtaccgggaccatcgctactgcagcgcgccgcccaacagccgggctttcagagcagccttcgcggtactggag  Ccggaggtggcggtgttggatccggcggaggcagcaagaggtcaaatgaatcccgcagtttgggtggcggtggtagcaaa  Agtgattttgcgacggccaaaaagaaaaagaagctggccgaaaagatactgccgcagaaggtgcgggatctggtgcccg  Aatcgcaagcgtacatggatctgctgacgtttgagcgaaaactggatgccaccataatgcgcaaacgtctggacatccagg  Aggccctcaagcgccccatgaagcagaagcgcaagctgcgcatcttcatctcgaacacattctatcccagcaaggagccca  Caaatgatggcgaggagggcgccgttgcctcttgggaattgcgggtggagggtcgcctgttagaggatggcaagggcgatc  Ccaatacaaagatcaaacgcaagttttcgtcgtttttcaagtcgctggttatcgagctggataaggaactgtacggtccggac  Aaccatctggtcgagtggcatcgcactcacaccacccaggagacggacgggttccaggtgaagcggccgggcgatcgcaatg  Tgcgctgcaccatcctcctgctgcttgactaccagccgctgcagttcaagctggacccgcgactcgccaggttgctgggcgta  Cacacacagaccaggccggtgatcatatccgccctgtggcagtacatcaagacgcacaagctacaggatgcccacgagcggg  Agtacatcaattgcgacaagtatctggagcagatattcagttgccagcggatgaagtttgccgagataccgcaacgcctcaatc  Cgctgctgcatccgcccgatccgattgtgatcaatcatttcattgagagcggtgcagagaacaagcagactgcctgctacgaca  Tcgatgtggaggtggatgatacgctcaaaaaccagatgaacagcttcctgatgagcactgcgagccaacaggagatccaggg  Gctggacaccaagatccacgagacggtggacacgatcaaccagatgaagacgaacagggagttcttcctaagcttcgccaa  Ggatccacaaatgtttattcatcgctggatcatcagtgagacgagggatttgaagctgatgaccgatgtagctggcaatccgg  Aggaggagcgtcgggcggagttctattaccagccatggacgcacgaggccgtttcgcgctacttcttcaccaaggtcaaccag  Aagcgggccgaattggagcaggcgctgggcatacgcaacggctaggtgaatgatgagctgatcatctccaccagccaattcg  Tggagtccaccgtcaagagacctccataaaccgtgcgcacggcaaactctttttccttcgccagtttagtttaagcttaaaatatt  Tcctttttttccgacaagccgaactccatcccgttccaaaacgaaaatcccctttgcagttgtcccaaatacccacatccagcac  aaatattggacttaactgtaagctaataaaatggcatacaaatat |
| The amino acid sequence acquired from inputting the exon transcript from the EnsembleMetazoa Genome Browser into ExPasy. | >EnsembleGenomeBrowser:AminoAcidSequenceForQ9VYG2  MSQRFAPGQAPVQSRYQPPPPAPGMRPYPPPGASFPPRGFPLHPNTTQPVPGTANVAGVPGVPG  VPGVPGPSLLQRAAQQPGFQSSLRGTGAGGGGVGSGGGSKRSNESRSLGGGGSKSDFATAKKKKK  LAEKILPQKVRDLVPESQAYMDLLTFERKLDATIMRKRLDIQEALKRPMKQKRKLRIFISNTFYPSKEPT  NDGEEGAVASWELRVEGRLLEDGKGDPNTKIKRKFSSFFKSLVIELDKELYGPDNHLVEWHRTHTTQ  ETDGFQVKRPGDRNVRCTILLLLDYQPLQFKLDPRLARLLGVHTQTRPVIISALWQYIKTHKLQDAHER  EYINCDKYLEQIFSCQRMKFAEIPQRLNPLLHPPDPIVINHFIESGAENKQTACYDIDVEVDDTLKNQM  NSFLMSTASQQEIQGLDTKIHETVDTINQMKTNREFFLSFAKDPQMFIHRWIISETRDLKLMTDVAG  NPEEERRAEFYYQPWTHEAVSRYFFTKVNQKRAELEQALGIRNG |
| The Fasta sequence acquired from exporting the UniProtKB amino acid sequence for Q9VYG2 | >UniProt:AminoAcidSequenceForQ9VYG2  MSQRFAPGQAPVQSRYQPPPPAPGMRPYPPPGASFPPRGFPLHPNTTQPVPGTANVAGVP  GVPGVPGVPGPSLLQRAAQQPGFQSSLRGTGAGGGGVGSGGGSKRSNESRSLGGGGSKSD  FATAKKKKKLAEKILPQKVRDLVPESQAYMDLLTFERKLDATIMRKRLDIQEALKRPMKQ  KRKLRIFISNTFYPSKEPTNDGEEGAVASWELRVEGRLLEDGKGDPNTKIKRKFSSFFKS  LVIELDKELYGPDNHLVEWHRTHTTQETDGFQVKRPGDRNVRCTILLLLDYQPLQFKLDP  RLARLLGVHTQTRPVIISALWQYIKTHKLQDAHEREYINCDKYLEQIFSCQRMKFAEIPQ  RLNPLLHPPDPIVINHFIESGAENKQTACYDIDVEVDDTLKNQMNSFLMSTASQQEIQGL  DTKIHETVDTINQMKTNREFFLSFAKDPQMFIHRWIISETRDLKLMTDVAGNPEEERRAE  FYYQPWTHEAVSRYFFTKVNQKRAELEQALGIRNG |
| The percent identity matrix produced by Clustal Omega when aligning both the original and EnsembleMetazoa amino acid sequence | # Percent Identity Matrix - created by Clustal2.1  #  #  1: EnsembleGenomeBrowser\_AminoAcidSequenceForQ9VYG2 100.00 100.00  2: UniProt\_AminoAcidSequenceForQ9VYG2 100.00 100.00 |
| 1000 upstream and down stream | >X dna:chromosome chromosome:BDGP6.28:X:13156445:13160508:1  CGCTTTGTATATGCGGAGCGGTCTATTCGCTCCTCTACCAACCACACCGCTCCTGGTACT  CATGGACACTTAACTCACTGGTGAACGGAGTTTACGCCTTCGGTTTCCTGTTCATGTTGC  CGCAACTGTTTGTAAACTACAAGCTGAAGTCTGTGGCCGCATTGCCGTGGCGCGCATTTA  TGTATAAAGCATTTAATACCTTCATCGACGACTTCTTCGCCTTCATCATCACCATGCCCA  CGGCCCATCGGGTGGCCTGCCTGCGCGATGATATTGTGTTTATTATCTATCTGTATCAGC  GCTGGCTGTATCCGGTTGACAAGAGTCGGCTGGACACGGGTCTGTCCATTAGCGAGACCC  CGGATACGGGCAACAGCTCATCCGCTTCCATTGCTGCCAATCGCAAGAAGCGAAATTGAT  CCTATATCAGCAAAAGGAGTAAAGGTTGCACATTCCGCCTATAGCTTGAGGTCTAGCCCG  AGACGTAGTAATCCGAGTCCGTCTTTAGTTTACTAGTGATATTAATCCTGTGTTGTAGTC  TAAACCGTTTAAAGCTTGTGCGTAAATCGTTAAGTTAAGAAGCATCAACTGAAAATGCGT  TTTATACAATTTTAAATCAACAGCATCAAAGGATTGCAGAACTATGGAACTTACTAAAAC  ACATAATTTTAAAGTATAAATTATGAAATATTGTGAGATGACTCAAACGCTGGCCTTTCA  CATTGTTAGATTGGTCAGCTAAAACCCTACAATAATATATCCAAATGTAGATCAAAACGT  ATTTTAGAAACAATCAGTTAACATGAAATCGTATAGGATCGTAAGGCTACAAGTGATTCT  AAAATCTCAATTAACCAACAAATGCATTTTCTAAAATTTAAAGGGAACCCAAAAGTATCA  AAAGGCTAAATATATATAAAGTCAACTGAAATCACTCGTAATAAAAATTAAACTTTAGTG  TTTCTAAAAGTGAACCGAATCAAATTTTATAGACAGTTTTATATTTGTATGCCATTTTAT  TAGCTTACAGTTAAGTCCAATATTTGTGCTGGATGTGGGTATTTGGGACAACTGCAAAGG  GGATTTTCGTTTTGGAACGGGATGGAGTTCGGCTTGTCGGAAAAAAAGGAAATATTTTAA  GCTTAAACTAAACTGGCGAAGGAAAAAGAGTTTGCCGTGCGCACGGTTTATGGAGGTCTC  TTGACGGTGGACTCCACGAATTGGCTGGTGGAGATGATCAGCTCATCATTCACCTAGCCG  TTGCGTATGCCCAGCGCCTGCTCCAATTCGGCCCGCTTCTGGTTGACCTTGGTGAAGAAG  TAGCGCGAAACGGCCTCGTGCGTCCATGGCTGGTAATAGAACTCCGCCCGACGCTCCTCC  TCCGGATTGCCAGCTACATCGGTCATCAGCTGAAAGGACGAAAGGTTTAGACAACGGTAT  GAGGCAAAAAAGAAAAAAAAAGAACTAACCTTCAAATCCCTCGTCTCACTGATGATCCAG  CGATGAATAAACATTTGTGGATCCTTGGCGAAGCTTAGGAAGAACTCCCTGTTCGTCTTC  ATCTGGTTGATCGTGTCCACCGTCTCGTGGATCTTGGTGTCCAGCCCCTGGATCTCCTGT  TGGCTCGCAGTGCTCATCAGGAAGCTGTTCATCTGGTTTTTGAGCGTATCATCCACCTCC  ACATCGATGTCGTAGCAGGCAGTCTGCTTGTTCTCTGCACCGCTCTCAATGAAATGATTG  ATCACAATCGGATCGGGCGGATGCAGCAGCGGATTGAGGCGTTGCGGTATCTCGGCAAAC  TTCATCCGCTGGCAACTGAATATCTGCTCCAGATACTTGTCGCAATTGATGTACTCCCGC  TCGTGGGCATCCTGTAGCTTGTGCGTCTTGATGTACTGCCACAGGGCGGATATGATCACC  GGCCTGGTCTGTGTGTGTACGCCCAGCAACCTGGCGAGTCGCGGGTCCAGCTTGAACTGC  AGCGGCTGGTAGTCAAGCAGCAGGAGGATGGTGCAGCGCACATTGCGATCGCCCGGCCGC  TTCACCTGGAACCCGTCCGTCTCCTGGGTGGTGTGAGTGCGATGCCACTCGACCAGATGG  TTGTCCGGACCGTACAGTTCCTTATCCAGCTCGATAACCAGCGACTTGAAAAACGACGAA  AACTTGCGTTTGATCTTTGTATTGGGATCGCCCTTGCCATCCTCTAACAGGCGACCCTCC  ACCCGCAATTCCCAAGAGGCAACGGCGCCCTCCTCGCCATCATTTGTGGGCTCCTTGCTG  GGATAGAATGTGTTCGAGATGAAGATGCGCAGCTTGCGCTTCTGCTTCATGGGGCGCTTG  AGGGCCTCCTGGATGTCCAGACGTTTGCGCATTATGGTGGCATCCAGTTTTCGCTCAAAC  GTCAGCAGATCCATGTACGCTTGCGATTCGGGCACCAGATCCCGCACCTTCTGCGGCAGT  ATCTTTTCGGCCAGCTTCTTTTTCTTTTTGGCCGTCGCAAAATCACTTTTGCTACCACCG  CCACCCAAACTGCGGGATTCATTTGACCTCTTGCTGCCTCCGCCGGATCCAACACCGCCA  CCTCCGGCTCCAGTACCGCGAAGGCTGCTCTGAAAGCCCGGCTGTTGGGCGGCGCGCTGC  AGTAGCGATGGTCCCGGTACGCCGGGTACTCCAGGAACTCCCGGTACCCCGGCCACGTTC  GCCGTGCCGGGAACAGGTTGAGTAGTGTTCGGATGCAGGGGAAACCCGCGCGGCTGTTGC  GGATAAGATTGTACATGCTTAATTGAAACGGTAGGTGCTGGATAATGCGTGGAAAACTCA  CTGGAAAAGAGGCGCCTGGCGGCGGATAGGGACGCATGCCGGGCGCCGGTGGTGGTGGCT  GATAACGCGACTGCACCGGCGCTTGGCCAGGTGCAAAGCGTTGCGACATCTTTGCTACGA  AGTCCTCCCTTTTTTCCAGCCGTAAACAATTGCCCTTTGCAGACGAAGGAAAATTTCTGC  CTTTTTGTTTCAATACAACAACGCGTCAAACACACACACAATTTCGCCTGTAAAATGGCG  TCAAAACAGGGATGCACTATTACTGGTGGTGGTCGACTGGGCGATAGATATTACAACGTT  TGGCAGGGCTGCGGCTATCATTTTGCACTTTAATCGAAGTTATTCATTTCAATAGAGTTA  CAGCTATATAGTTGGCTTTGAAAATATACTTAAAAACTTTCAAGACATTTGTAACAAACA  AACAATACGATAAGGAATATACTAGCACTTGCTACTATCGATCGAAAACATTGGTTTGCC  CAAACGCTCGATAGTTGCAGTGTCAAGCCATAAACATAAGCAATATCGATAGTCGCCAAT  AAGTTCGGACAAGTAACGTCTTCTGAAATCGAAGAACGATAGGTTTGAAACCGACTGTCA  TTTTAACACAGAAAACAAATGGAAATGGAAGACAATTGGTGGGTCACCAAGTTAAAGGCT  CTGGAGTCGAAGCCACAAAGGCTGGATGCGCTGACCGCCATGAACTCAGCCATCGCAAAG  GAGGCGGCTCTTCCGCGTCAAATAATTGAACGCCTGCTGACCACGGACCAATTGTATGAC  TGCGCCAATCCCGCCGCGGATTCCCATGTTCCCAAGGATCAGGCCGTGGACGTGACCCTG  GAATTGCTGTGCCACTGCCTTGATCAGCTGGCGATGGACACCGCCGACGAGCAGCTGTCC  AGTCTGCTAAGACGTGGCTTGACCCACTCGAATCCAGCCTTGCGTGCCCAGGTGTTGGCC  AGTTTGTTCAAGAAGCTGCTTCGCCAGTTGACCGTCGGTCAGGTTCTCACCCTGCCCAAC  AATGAGCTTATTTTCCTCATCTTGGACGAGCTGAAACAACCGGATACGCAGAGTACCTCT  CTGGCCATCAATATCCTATCCATCGTGCTGCCTCAGCGAATCAGCAATGCCGATGTGCAG  GCAAAGCTAGTACAGCTCCTAAAGCAAAATGAGATCGTGCGCTGTCGCGCCTACGAATTG  GCAGTGGTCCTGGCCAAGAAAAGTGCCACCTTACTCAGTGACGT |