

```
C._elegans      -ATGG-TTG-----  
Cat             A-TGG-----  
Cattle          A-TGG-----  
Chicken         G-AT-GCT-----CATCA-----CGT-C-TC-----  
Chimpanzee      G-CG-GCCGCCCGTAGC--CCAATTGCGCAGAGGGCTCGCCTTGCACCTC  
Dog             A-TGG-----  
Human           G-CG-GCTC-C---AGT--CCGA-----AGG-CAGC-----  
Mouse           G-CGCGCTC-C---CGCCGCCGC---CGCGCGCGCC-----  
Rat             A-A-----G-----  
Western_Claved_Frog  -----C--C---CA-CG-----CG---TC-----  
Zebrafish       AACGGACTG-T---CACTG-----
```

```
C._elegans      -----  
Cat             -----  
Cattle          -----  
Chicken         -----  
Chimpanzee      CTCTTCCCCCGCCGCCCTCCCTCTCGCCAGAAAGGAGGACGGACCCAGC  
Dog             -----  
Human           -----  
Mouse           -----  
Rat             -----  
Western_Claved_Frog  -----  
Zebrafish       -----
```

```
C._elegans      -----  
Cat             -----  
Cattle          -----  
Chicken         -----  
Chimpanzee      TGCAGGCTCCGAGCTGGTTTATCTGCGGCCGAGGATTACATTTATGCAC  
Dog             -----  
Human           -----  
Mouse           -----  
Rat             -----  
Western_Claved_Frog  -----  
Zebrafish       -----
```

```
C._elegans      -----  
Cat             -----  
Cattle          -----  
Chicken         -----  
Chimpanzee      GAACGGTCTTACTGGCTCCAGATTCCCCTTGGGCACAGGCATAGGAGG  
Dog             -----  
Human           -----  
Mouse           -----  
Rat             -----  
Western_Claved_Frog  -----  
Zebrafish       -----
```

```
C._elegans      -----  
Cat             -----  
Cattle          -----  
Chicken         -----  
Chimpanzee      CTTGTTTCCAAATTGCTGGTTTAAATTGCACCTGCCTTTCAGATTACCT  
Dog             -----  
Human           -----  
Mouse           -----  
Rat             -----  
Western_Claved_Frog  -----  
Zebrafish       -----
```

```
C._elegans      -----  
Cat             -----  
Cattle          -----  
Chicken         -----  
Chimpanzee      CTGGGAATCTGTGGGAGGAGCCGAGAGGGTGGAAAATGTTTCTCGCTTT  
Dog             -----  
Human           -----  
Mouse           -----  
Rat             -----  
Western_Claved_Frog  -----  
Zebrafish       -----
```

```
C._elegans      -----  
Cat             -----
```

Cattle -----  
Chicken -----  
Chimpanzee GCAAAAGGAAGAAAAC TTTGT CACCCAGCGGGAGACCTCAGCCACGAGTA  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle -----  
Chicken -----  
Chimpanzee ACCCGGGAGACACCAGA ACCGGGACGGGCTTTGACTGATTGCGCTGCGA  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle -----  
Chicken -----  
Chimpanzee GGGTTCCGTAGGAAAGGACGCTTGA ACTCGGCGCTTCGGCGGCGGGCGG  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle -----  
Chicken -----  
Chimpanzee GCGCGAGTTCCTGCTCACCC TCCCTCTCCGCGGAAGTCCCACGAGGTG  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle -----  
Chicken -----CTTCT-  
Chimpanzee GCTTCAGGGTGTAA CAGAGCGCGGCTCCAGTCCGAAGGCAGCGGCCGG  
Dog -----  
Human -----GGCCGG  
Mouse -----CCCCG-  
Rat -----  
Western\_Claved\_Frog -----C-----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle -----  
Chicken -----  
Chimpanzee GGGAGGGAAGGAGGGGACCGAACCCCGAGGAGTTTCCAGAAATCAACTT  
Dog -----  
Human GGGAGGGAAGGAGGGGACCGAACCCCGAGGAGTTTCCAGAAATCAACTT  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----C AAAAAGAATA-----  
Cat -----GAAGCTCGGCCATGGACACCAAGAAGAAAAGA  
Cattle -----GAAGCGGGCCATGGACACCGAGAAGAAGAAAAGA  
Chicken -----  
Chimpanzee CTGGTTAGAGTTATGGGAAGCGGTTATGGACACCAAGAAGAAAAGA  
Dog -----GAAGCGGGCCATGGACACCAAGAAGAAAAGA  
Human CTGGTTAGAGTTATGGGAAGCGGTTATGGACACCAAGAAGAAAAGA

```

Mouse -----
Rat -----
Western_Claved_Frog -----
Zebrafish -----CCA-----

C._elegans --TT-----CTCGGAGG--GC--CCCATCAAATCAGCTCAACGACAA-
Cat TGTTCAGCCCGCCGGCAGAGCAGCGCAAAAAA-AATCCCAGCCAGAAG
Cattle TGTTCAGCCCGCCGGCAGAGCAGCGGCTGTATG-AACAGCATTGAGAAG
Chicken -----
Chimpanzee TGTTCAGCCCGCCGGCAGAGCAGCGGCAAGAAA-AATGCCAGCCAGAAG
Dog TGTTCAGCCCGCCGGCAGAGCAGCGGGAAGAAA-AACCCGAGCCAGAAG
Human TGTTCAGCCCGCCGGCAGAGCAGCGGCAAGAAA-AATGCCAGCCAGAAG
Mouse -----
Rat -----
Western_Claved_Frog -----
Zebrafish -----GGACCGATGGACTTAAA-AACATGAG-----

C._elegans -----TAGTAGCCT-CCCA--CC
Cat AGGCGTTCGCTGCGAGTGCACATCCGGACCTGAGTTCCTTTGCCATGCC
Cattle CGGCGTTCGCTGCGGGTGCACATCCGGACCTGAGTTCCTTTGCCATGCC
Chicken -----CC
Chimpanzee AGGCGTTCGCTGCGCGTGCACATCCGGACCTGAGTTCCTTTGCCATGCC
Dog CGGCGTTCGCTGCGAGTGCACATCCGGACCTGAGTTCCTTTGCCATGCC
Human AGGCGTTCGCTGCGCGTGCACATCCGGACCTGAGTTCCTTTGCCATGCC
Mouse -----CC
Rat -----
Western_Claved_Frog -----G-----
Zebrafish -----CACTT--AGTTACT-----TCCA-----CC

C._elegans AAT-----CGGTGAACTTGTGATATCAGTTGACGACGAGC--C--AA--
Cat TCTCCTGGACGGAGACCTGGAGAGCTCAGAAAAGCATGCTTCTCGTAAGG
Cattle GCTCCTGGATGGAGACCTGGAGAGTTCAGAAAAGCCTCCGTCTCGTAAGG
Chicken TCT-----CTT-----
Chimpanzee GCTCCTGGACGGAGACCTGGAGGGTTCGGAAAAGCATTCCTTCTCGAAAAG
Dog ACTCCTGGATGGAGACCTGGAGAGCTCAGAAAAGCATTCCTTCCCGTAAGG
Human GCTCCTGGACGGAGACCTGGAGGGTTCGGAAAAGCATTCCTTCTCGAAAAG
Mouse AC-----
Rat -----
Western_Claved_Frog -C-----
Zebrafish GC-C-GT----GA-----TTC-----GCTTT-----

C._elegans -CGACAGCTCCGCCAG-TCACGAAACCCGTCAAAAAGGATGGATTAATA
Cat TGGACAGCCCCGTCAGCTCGGGCAGCCCCCTCAA-AGGGTTCTTCTCTCG
Cattle TGGACAGCCCCGTCAGCTCGGGCAGCCCCCTCAA-AGGGTTCTTCCACAG
Chicken -----CCCTC-----CCG
Chimpanzee TGGACAGCCCCGTCAGCTCGGGCAGCCCCCTCAA-AGGGTTCTTCTCCAG
Dog TGGACAGCCCCGTCAGCTCGGGCAGCCCCCTCAA-AGGGTTCTTCTCCAG
Human TGGACAGCCCCGTCAGCTCGGGCAGCCCCCTCAA-AGGGTTCTTCTCCAG
Mouse -----TGCAG-----GCCCTC-----CTCCCG
Rat -----
Western_Claved_Frog -----T-----
Zebrafish -----TTGTT-----

C._elegans CGGCGAAGAGCAAGGCGTCTGGAACCTTCGTCGGACACTTTTCGGACGG
Cat AGGCCCCCAGCACCCGGCCCTCCAGCCCCGTGCTGCTCCCGTGAGGCCCA
Cattle AGGCCCCCAGCCCCGGCCCTCCAGCCCCGTGCTGCCCCGTGCGCCCCA
Chicken -----C---AGG---
Chimpanzee AGGCCCCCAGCCCCGGCCCTCCAGCCCCATGCTGACCTGTGAGGCCCA
Dog AGGCCCCCAGCACCCGGCCCTCCAGCCCCGTGCTGCTCCCGTGAGGCCCA
Human AGGCCCCCAGCCCCGGCCCTCCAGCCCCATGCTGACCTGTGAGGCCCA
Mouse A-----TG---CGAGAAGCCCG
Rat -----
Western_Claved_Frog -----
Zebrafish -----GCGTCTGTT---TGT-----

C._elegans AGCACGA--AACGACGAGCAAAGATGCTGAAGCGATTC-----ATGA
Cat AG-GCCAGCCCCGGCTCTCCCAAACCGTGTTCCTATTTCTCTACCAGGA
Cattle AG-ACCAGCCCCGGCTCTCCCAAACCGTGTTCCTGTTCTCTACCAGGA
Chicken -----C-----
Chimpanzee AG-ACCAGCCCCGGCTCTCCCAAACCGTGTTCCTATTTCTCTACCAGGA
Dog AG-ACCAGCCCCGGCTCTCCCAAACCGTGTTCCTATTTCTCTACCAGGA
Human AG-ACCAGCCCCGGCTCTCCCAAACCGTGTTCCTGTTCTCTACCAGGA
Mouse AG--C-----
Rat -----
Western_Claved_Frog -----
Zebrafish AG-ACTA-----CTGCAT-----CT--TTATTA-GA

```

C.\_elegans AG----CCGG----GGA-GGAGGAGGAGGATGAAGAGGATTATACA--  
Cat GTCCCCCGCGCTCCCCACGCCGCATGAGCTTCAGCGGGATCTTTCCG--  
Cattle GTCCCCCGCGCTCCCCACGCCGCATGAGCTTCAGCGGGATCTTTCCG--  
Chicken -----GGCG--G-----CAGCGG-----  
Chimpanzee GTCCCCCGCGCTCCCCCGACGCATGAGCTTCAGTGGGATCTTTCCG--  
Dog GTCTCCACCCCGCTCCCCACGCCGCATGAGCTTCAGTGGGATCTTTCCG--  
Human GTCCCCCGCACGCTCCCCCGACGCATGAGCTTCAGTGGGATCTTTCCG--  
Mouse -----GCCGCG--GCCCATGC---TGA---TCGGTG---TC-----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish CT--GACCGC-----GAACTTCC---GATCT-CCGGC

C.\_elegans --CA-----GGATAACTATGATACA-GTG-AAATCGT-----TGC-  
Cat --CTCCTCCTCAAAGAATCTTCCCCCAACTCCAACCCGTCTACCTCGCC  
Cattle --CTCCTCGTCAAAGACTCCTCCCCAGCTCCAACCCGTCCACCTCGCC  
Chicken --CTCCGGCTC-----CC-----TCT-----  
Chimpanzee --CTCCTCCTCAAAGAGTCTTCCCCCAACTCCAACCCGTCTACCTCGCC  
Dog --CTCCTCCTCAAAGAATCTTCCCCCAACTCCAACCCGTCTACCTCACC  
Human --CTCCTCCTCAAAGAGTCTTCCCCCAACTCCAACCCGTCTACCTCGCC  
Mouse --CTCCTCCTCC-----TCCC-----CCT-----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish GTCTCCTC-----A-----GCGTCTGTG-CGCC

C.\_elegans ---CAGCTTCAGGACATTAT-----GG-AAAATCGCGAGTGGGTAAC  
Cat CGGGGGCATCAGGTTCTTCTCCCGCTCCAGAAAAACCTCAGGCCTCTCCT  
Cattle AGGGGGCATCCGCTTCTTCTCCTCGCTCCAGAAAAACCTAGTGGCCTCTCTT  
Chicken -----CAGC-----TC-----  
Chimpanzee CGGGGGCATCAGGTTTTTCTCCCGCTCCAGAAAAACCTCCGGCCTCTCCT  
Dog GGGGGGCATCAGGTTCTTCTCCTCGCTCCAGAAAAACCTCCGGTCTCTCAT  
Human CGGGGGCATCAGGTTTTTCTCCCGCTCCAGAAAAACCTCCGGCCTCTCCT  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----GG-----T---GTAAAAGTGTGTGTG----TT

C.\_elegans -----ACGTC---GCACACG-AAGCT-TCAAGATTTAGCTG--ATGAGAT  
Cat CCTTCTCGTCGACACCCACCCAAAGCGCCAAAGCAGCACCCGTTTCCCTCTC  
Cattle CCTTCTCGTCGACACCCACCCAAAGTGGCCAAGCAGCACACGTTCCCTCTC  
Chicken -----CCGGCC-----  
Chimpanzee CCTTCTCGTCAACACCCACCCAAAGTACCAAGCAGCACACGTTTCCCTCTG  
Dog CCTTCTCATCGACACCCACCCAAAGTGGCCAAGCAACACACCTTCTCTCTC  
Human CCTTCTCGTCAACACCCACCCAAAGTACCAAGCAGCACACGTTTCCCTCTG  
Mouse -----CAGGCG-----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish ----T--G-----TGTGG-----

C.\_elegans GAGG-CTTCGAG--GAGG-TGGACCACCGAAACA-AGGATCCGAGCCTC  
Cat GAATCCTACAAGCACGAGCCTGAGCGACTGGAAAACCGCATCTACGCCTC  
Cattle GAGTCTTACAAGCAAGAGCCTGAGCGACTGGAAAATCGCATCTATGCCTC  
Chicken -----GC-----  
Chimpanzee GAATCCTATAAGCACGAGCCTGAACGGTTAGAGAATCGCATCTATGCCTC  
Dog GAATCCTACAAGCATGAGCCTGAGCGACTGGAAAATCGCATCTATGCCTC  
Human GAATCCTATAAGCACGAGCCTGAACGGTTAGAGAATCGCATCTATGCCTC  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----AGGAC-AGCCTGAG-----ATCG-----CCTC

C.\_elegans CGATCC-----CAAAACC-TCCGGTAATAATCTTCCGTGTACCTC-GCA  
Cat CACTTCCCCTCCGGACACAGGCCAGAGGTA-CTGCCCGTCTCCTTCCAG  
Cattle CTCTTCCCTCCGGACACAGGCCAGAGGTT-CAGCCCGTCTCCTTCCAG  
Chicken -----CTCC-----  
Chimpanzee GTCTTCCCCTCCGGACACAGGCCAGAGGTT-CTGCCCATCTTCTTCCAG  
Dog CTCTTCCCCTCCGGACACAGGCCAGAGGTA-TGCCCGTCTCCTTCCAG  
Human GTCTTCCCCCCTCCGGACACAGGCCAGAGGTT-CTGCCCGTCTTCTTCCAG  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish GTCTGA-GCTCC-----ACTCTGTATCTTTCCAC

C.\_elegans AGCAT-GC---GAATTCAATGTCATCAC-TA-----  
Cat AGCACAGCCGGGCTCCATCAGCATCACCACGC-----  
Cattle AGTGCAGCCAGGCTCCTCAGCATCGCCGACACATCTTCTCCCTCAA  
Chicken -----

Chimpanzee AGCCCGACCAGGCCTCCACTGGCATCACCGACAC-----  
Dog AGCGCAGCCAGGCCTCCATCGGCATCGCCACAC-----  
Human AGCCCGACCAGGCCTCCACTGGCATCACCGACAC-----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish AG-----G--TTCA-CGG-----

C.\_elegans -----  
Cat -----  
Cattle ATCTGTAAAGTCTGGGCCTCCTGGGGGCCAGGCCGCCGGCGAAGCTCTGG  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle GCTGCCAGGCCTCACAGCCTGCCAACCTGAGCTGGCGATCGGAGAGTCTC  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle AGATACCCAGATCCAGGCCTCCATCCCCTCTCCCGGCACGTCGCCCCG  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle CCCACCGACCCCTACCTGGCTCCGCACCCCTCGGGCCCACCCCGGCC  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle GGCCGAGACCACCCCGCAGGTTAAACCTGCGGGACGCGCTTCCGTG  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle GGTGGCGGGGTAAAGCCCGCCCTGCGCCCGCGCTGTACCGCTTCCC  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----

Western\_Clawed\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle GGCCCAGCCCTTAACCCCGCCCTGCAGTCTCGGACCCGCCCGTGCGGC  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Clawed\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle CCGCCCCGCTGCCGTACCGGGCCCTGCGGCCACGCTCCGGGCCTCG  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Clawed\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle CGTCCCGGCCCGCCCTGCGGCCCGCCTCCGCGGTACCGGGCCCTTC  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Clawed\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle TGCCCGGCCCTCCCGGACCCCGCCCTGCGGCTCCGGCCCCGCCCGC  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Clawed\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle CGGCCCGCCCGTACCGCGCCCTGCGGCCCGCGGCCCGCCCGC  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Clawed\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle CCCAGTCTCCCGCACCCCGCCCTCCGCCCGCGGCCCGCCCGC  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Clawed\_Frog -----  
Zebrafish -----

C.\_elegans -----

Cat -----  
Cattle GCGGCCGGGGACGAGCGCCGCCGAGCGCATGCTGATCCGTGTCGGGCCGG  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle GCGCGAGGACAGCCGGGTCTCTCCCGGAGGCCGGGTTCCTCCCGC  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle CCACCGCCCGTCCAGCCGGTCTCGGGGCCGGTGAGGAAACCGGGGCC  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle ACGGAGCGCGTCTGCGGTGGCCGGGTGCCCTCTCGGAGCGTAATCGAGC  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle TGGCTCCAAGGGGAGCCCGCAGCCCGCCCTCGGCACGGATGGTCGGTCC  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----  
Cat -----  
Cattle TTTTGTCTTACGAGCTGTACTCGGCTGAGAGCAAGAGCAGCAACGCCAT  
Chicken -----  
Chimpanzee -----  
Dog -----  
Human -----  
Mouse -----  
Rat -----  
Western\_Claved\_Frog -----  
Zebrafish -----

C.\_elegans -----CGTGTCTCACCGGGAG--C  
Cat -----ACCATGCTTCTCCAGAA--C  
Cattle CCCACTGGCAGGGCTGGCGTTCAGCAAACTTTGTTTACAG-AAAGAGG  
Chicken -----  
Chimpanzee -----ACTATGCTCCCTCCAAAG--C  
Dog -----ACTATGCTTCCCCAGAA--C

Human -----ACTATGCTCCCTCCAAAG--C  
Mouse -----  
Rat -----  
Western\_Clawed\_Frog -----  
Zebrafish -----TTTA-----TCT-----

C.\_elegans AATTGGGCCATCGGGT--GTTGTCAA-G---GC-GCCGCTTT--CCGAT  
Cat CGTAAGTCCGTGGGCTGGGCCCCAG-G---CCCCTGCTTG--CTGGT  
Cattle CCAGCTGC--CAGCGTTACCACTGTGTACATCCTGCCTCATACCACCACC  
Chicken -----GAA-----GGG  
Chimpanzee CGCGGCCT--GGCGGCGGCCCTGGG-A---CCCGC-GGAAG---CCGGC  
Dog CGTAAGTCT--GGCCTTCTCCTGC-G-G---GCCGG-GCCTC--CAGGC  
Human CGCGGCCT--GGCGGCGGCCCTGGG-A---CCCGC-GGAAG---CCGGC  
Mouse ---GTGCT--GGCGGCGGCCCGGG-A---CCCGC-GGAAG---CCGGC  
Rat -----  
Western\_Clawed\_Frog -----GAA-----GGC  
Zebrafish -----GAA-----GAT

C.\_elegans C-CGAACT--TTGACTTTTAC-----ACGTGG-C-----ACACGTCT  
Cat C-T-CATTGAGATGGTGGACT-----TC-----T---CA  
Cattle -AT-CACAGCTAAGCCAGGTCTCACCTCTCAGCGTCCCTCCCA---AA  
Chicken A-T-GCTGGAGAACTCGAGC-----TC-GAA-G-----ATG---AA  
Chimpanzee A-T-GCTGGAGAACTCGAGC-----TC-GAG-G-----ACG---AA  
Dog AAT-TC TAAACTGAATAGAAT-----AC-TGG-G-----ACT---AA  
Human A-T-GCTGGAGAACTCGAGC-----TC-GAG-G-----ACG---AA  
Mouse A-T-GCTGGAGAACTCGAGC-----TC-CAG-G-----AGG---AA  
Rat -----  
Western\_Clawed\_Frog A-T-GCTGGAGAACTAGAGC-----TG-GAA-G-----ATG---AA  
Zebrafish A-T-GCTGGAGAACTCGATA-----TC-GAG-G-----ATG---AA

C.\_elegans GA-----AGCGGATAACC-A--CGACGCTGATATCTTTATT  
Cat GA-----GACAGAAGACTCAGAGAGTGGCGTCTACATGCGCTT  
Cattle GCCCTTCTGTGCGCGCCAGAACTCAGAGAGTGGCGTTTACATGCGATT  
Chicken GC-----ACTTGAAGAGTCCGAAAGTGACATTTATGTGCGATT  
Chimpanzee GC-----AGTAGAAGACTCAGAAAGTGGTGTTTACATGCGATT  
Dog GC-----CACAGAAGACTCAGAGAGTGGTGTTTACATGCGCTT  
Human GC-----AGTAGAAGACTCAGAAAGTGGTGTTTACATGCGATT  
Mouse GC-----AGAAGACTCAGAAAGTGGCGTTTATATGCGATT  
Rat -----AAGACTCAGAGAGTGGCGTTTATATGCGATT  
Western\_Clawed\_Frog GC-----TGTTGAAGAATCAGAAAGTGACATATATACGCGCTT  
Zebrafish GC-----TGTTGAACATTCAGAGAGCGACATTTACATGCGGTT  
\* \* \* \* \*

C.\_elegans CATGAAGGCTCACAAATGCTACGATCTTATCCCGACATCGTCCAAATTAG  
Cat CATGAGGTCACACAAGTGTACGACATCGTTCACCAAGCTTCAAAGCTTG  
Cattle CATGAGGTCACACAAGTGTACGACATCGTTCACCAAGCTTCAAAGCTTG  
Chicken CATGAGGTCACACAAGTGTATGACATGTTTCCAACCAAGCTTAAAGCTTG  
Chimpanzee CATGAGGTCACACAAGTGTATGACATCGTTCACCAAGCTTCAAAGCTTG  
Dog CATGAGGTCACACAAGTGTATGACATCGTTCACCAAGCTTCAAAGCTTG  
Human CATGAGGTCACACAAGTGTATGACATCGTTCACCAAGCTTCAAAGCTTG  
Mouse CATGAGGTCACACAAGTGTATGACATCGTTCACCAAGCTTCAAAGCTTG  
Rat CATGAGGTCACACAAGTGTATGACATCGTTCACCAAGCTTCAAAGCTTG  
Western\_Clawed\_Frog CATGAAATCCCAAGTGTACGACATTTGTCCCAACCAAGCTTCAAAGCTTG  
Zebrafish TATGAAGTCACATAAGTGTATGACATCGTTCCTTACCAGCTTCAAAGCTTG  
\*\*\*\* \* \* \* \* \*

C.\_elegans TGGTATTGACACACATTTGCCTGTTGAAAGGCATTTACGCTCTGGTT  
Cat TGGTATTGATACACACGTTTACAAAGTAAAGAGGCCTTCTTTGCCTTAGTA  
Cattle TCGTCTTCGATACCACGTTTACAAGTAAAAAGGCCTTCTTTGCCTTAGTC  
Chicken TTGTTTTGACACTACGTTTACAAGTAAAGAGGCCTTCTTTGCCTTGGTG  
Chimpanzee TTGCTTTGATACTACATTTACAAGTAAAAAGGCCTTCTTTGCCTTGGTA  
Dog TGGTCTTTGATACTACTTTTACAAGTAAAAAGGCCTTCTTTGCCTTAGTA  
Human TTGCTTTGATACTACATTTACAAGTAAAAAGGCCTTCTTTGCCTTGGTA  
Mouse TTGCTTTGACACTACGTTTACAAGTAAAAAGGCCTTCTTTGCCTTGGTA  
Rat TTGCTTTGACACTACGTTTACAAGTAAAAAGGCCTTCTTTGCCTTGGTA  
Western\_Clawed\_Frog TTGTAATTCGACACTACGTTTACAAGTAAAGAGGCCTTCTTTGCCTTGGTA  
Zebrafish TGGTCTTTGACACAACGCTGCAGGTTAAAAAGGCCTTTTTTGCATTGGTG  
\* \*

C.\_elegans TATAACGGAGTACGTGCTGCACCACTATGGGATACCGATAATCAACGATT  
Cat GCCAATGGTGTCCGAGCAGCGCGCTGTGGGAGAGTAAGAAACAAAGTTT  
Cattle GCCAATGGTGTTCGAGCAGCACCCTGTGGGAGAGTAAAAACAAAGTTT  
Chicken GCAAATGGTGTGAGAGCAGCTCCACTGTGGGAGAGTAAAAACAGAGTTT  
Chimpanzee GCCAACGGTGTCCGAGCAGCGCCACTGTGGGAGAGTAAAAACAAAGTTT  
Dog GCCAATGGTGTTCGAGCAGCGCGCTGTGGGAGAGTAAGAAACAAAGTTT  
Human GCCAACGGTGTTCGAGCAGCGCCACTGTGGGAGAGTAAAAACAAAGTTT  
Mouse GCCAACGGAGTCCGTGCAGCGCGCTGTGGGAAAGTAAAAAGCAGAGCTT  
Rat GCCAACGGAGTCCGTGCAGCGCGCTGTGGGAAAGTAAAAAGCAGAGCTT  
Western\_Clawed\_Frog GCCAATGGCGTCCGAGCTGCTCTATGGGAAACAAAAACAGAGTTT  
Zebrafish GCCAATGGAGTCCGAGCGCCCTCTGTGGGAGACTAAGAAACAGAGTTT



\*\* \*

C.\_elegans CACCGGAATGCTAACAATTACGGATTTTATTAAGATTTGTGCAAGCACT  
 Cat CGTAGGAATGCTAACAATTACAGATTTTCATAAATATACTACATAGAT---  
 Cattle TGTAGGAATGCTAACAATTACAGATTTTCATTAATATACTACATAGAT---  
 Chicken TGTAGG-----  
 Chimpanzee TGTAGGAATGCTAACAATTACAGATTTTCATAAATATACTACATAGAT---  
 Dog TGTAGGAATGCTAACAATTACAGATTTTCATAAATATACTACATAGAT---  
 Human TGTAGGAATGCTAACAATTACAGATTTTCATAAATATACTACATAGAT---  
 Mouse TGTAGGAATGCTCAGGATTTACAGATTTTCATAAATATCCTACACAGAT---  
 Rat CGTAGGAATGCTCACAATTACAGATTTTCATAAATATACTACACAGAT---  
 Western\_Clawed\_Frog TGTAGGTATGTTAACAATTACAGATTTTCATTAATATATTTGCATCGAT---  
 Zebrafish TGTGGCATGTTAACCATCACAGACTTCATTAACATCCTTCACAGAT---

\*\*

C.\_elegans ACGACAAAGGAGACAACCTCCGAGCGAATCCGCGCGCTCGAAGATCAACAA  
 Cat ACTATAAATCACCCTA---TGGTACAGATCTATGAATTAGAGGAACATAAG  
 Cattle ACTATAAATCACCCTA---TGGTACAGATTTATGAATTAGAGGAACATAAG  
 Chicken -----TTCAGATCTATGAATTGGAGGAGCACAAG  
 Chimpanzee ACTATAAATCACCCTA---TGGTACAGATTTATGAATTAGAGGAACATAAA  
 Dog ACTATAAATCACCCTA---TGGTACAGATTTATGAATTAGAGGAACATAAG  
 Human ACTATAAATCACCCTA---TGGTACAGATTTATGAATTAGAGGAACATAAA  
 Mouse ACTATAAATCACCCTA---TGGTACAGATTTATGAATTGGAGGAACATAAG  
 Rat ACTATAAATCACCCTA---TGGTACAGATTTATGAATTGGAGGAACATAAG  
 Western\_Clawed\_Frog ATTACAAGTCTCCCTA---TGGTACAGATCTATGAGCTGGAAGAGCACAAG  
 Zebrafish ACTACAGATCACCCTA---TGGTACAAATCTATGAGCTTGAAGAGCATAAA

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

C.\_elegans ATC-AGCCATTGGCGGGATCAATTCGAGTTGGACGGAAACACTTCGACCAT  
 Cat ATTGAAACA-TGGAGGGAGC---TTTATTTACAAGAAACATTTAAGCCTT  
 Cattle ATTGAAACA-TGGAGGGAGC---TTTATTTACAAGAAACATTTAAGCCTT  
 Chicken ATAGAAACC-TGGAGGGAAC---TTTATTTACAAGAGACGTTTAAACCTT  
 Chimpanzee ATTGAAACA-TGGAGGGAGC---TTTATTTACAAGAAACATTTAAGCCTT  
 Dog ATTGAAACA-TGGAGGGAGC---TTTATTTACAAGAAACATTTAAGCCTT  
 Human ATTGAAACA-TGGAGGGAGC---TTTATTTACAAGAAACATTTAAGCCTT  
 Mouse ATTGAAACG-TGGAGGGAGT---TGTACTTACAAGAAACCTTCAAGCCTT  
 Rat ATTGAAACG-TGGAGGGAAAC---TGTACTTACAAGAAACCTTCAAGCCTT  
 Western\_Clawed\_Frog ATCGAGACA-TGGAGGGAGC---TGTATTTACAGGAGACGTTCAAGCCTC  
 Zebrafish ATTGAGACA-TGGAGAGAGC---TCTATCTACAAGAAACATTTAAGCCTT

\*\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

C.\_elegans TTTGATATATTGATCCAAATGAGAGCCTCCATAGAGCAGTTGAACCTGCTG  
 Cat TAGTGAATATATCTCCAGATGCAAGCCTCTTCGATGCTGTATACTCGTTG  
 Cattle TAGTGAATATATCTCCAGATGCAAGCCTCTTCGATGCTGTGCACTCGTTG  
 Chicken TAGTGAACATCTCCCCAGATGCAAGCCTTTTTGATGCTGTATATTCATTG  
 Chimpanzee TAGTGAATATATCTCCAGATGCAAGCCTCTTCGATGCTGTATACTCCTTG  
 Dog TAGTGAATATATCTCCAGACGCAAGCCTCTTCGATGCTGTATACTCGTTG  
 Human TAGTGAATATATCTCCAGATGCAAGCCTCTTCGATGCTGTATACTCCTTG  
 Mouse TGGTGAACATCTCTCCAGATGCGAGCCTCTTCGATGCTGTATACTCGTTG  
 Rat TGGTGAATATCTCTCCAGATGCGAGCCTCTTCGATGCTGTATACTCGTTG  
 Western\_Clawed\_Frog TAGTGAACATATTTCCAGATGCAAGTCTCTTCGATGCTGTATATTCATTG  
 Zebrafish TAGTGAACATATCTCCAGATGCAAGCATATTTGATGCTGTATTCCTG

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

C.\_elegans TGCGAGTCAAAAGTACACAGACTGCCGGTTTTGGATCGAAAACTGGAAA  
 Cat ATCAAAAATAAAATCCACAGATTTGCCAGTTATGACCCATCAGTGGGAA  
 Cattle ATCAAAAATAAAATCCACAGATTTGCCAGTTATGACCCATCAGTGGGAA  
 Chicken ATCAAAAATAAAATCCACAGATTTGCCAGTTATGATCCTCAGTGGGAA  
 Chimpanzee ATCAAAAATAAAATCCACAGATTTGCCAGTTATGACCCATCAGTGGGAA  
 Dog ATCAAAAATAAAATCCACAGATTTGCCAGTTATGACCCATCAGTGGGAA  
 Human ATCAAAAATAAAATCCACAGATTTGCCAGTTATGACCCATCAGTGGGAA  
 Mouse ATCAAAAATAAAATCCACAGATTTGCCAGTTATGACCCATCAGTGGGAA  
 Rat ATCAAAAATAAAATCCACAGATTTGCCAGTTATGACCCATCAGTGGGAA  
 Western\_Clawed\_Frog ATAAAAATAAAATCCACAGATTTGCCAGTTATGACCCAGTCAAGTGGAAA  
 Zebrafish ATCAAAAATAAAATCCACAGATTTGCCAGTTATGACCCAGTCAAGTGGAAA

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

C.\_elegans TATTACATATATATTGACACATAAGAGAATTATGAAGTTCTTATCACTTT  
 Cat TGCACTTTATATACTTACCCACAAAAGAATCCTCAAGTTCCTCCAGCTTT  
 Cattle TGCACTTTATATACTTACCCACAAAAGAATCCTCAAGTTCCTCCAGCTTT  
 Chicken TGCACTTTATATACTTACCCATAAAAGAATCCTCAAGTTCCTCCAGCTTT  
 Chimpanzee TGCACTTTATATACTTACCCACAAAAGAATCCTCAAGTTCCTCCAGCTTT  
 Dog TGCACTTTATATACTTACCCACAAAAGAATCCTCAAGTTCCTCCAGCTTT  
 Human TGCACTTTATATACTTACCCACAAAAGAATCCTCAAGTTCCTCCAGCTTT  
 Mouse CGCACTTTATATACTTACCCACAAAAGAATCCTCAAGTTCCTCCAGCTTT  
 Rat TGCACTTTATATACTTACCCACAAAAGAATCCTCAAGTTCCTCCAGCTTT  
 Western\_Clawed\_Frog TGCACTTTATATACTTACCCACAAAAGAATCCTCAAGTTCCTCCAGCTTT  
 Zebrafish TGCACTTTACATTTTGACGCACAAAAGGATCCTGAAATTCCTCCAGCTGT

\*\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

C.\_elegans ATATGCGTGATCTACCTCGTCCATCGTTTCATGTCGTTACTCCACGTGAA  
 Cat TTATGTCTGATATGCCAAAGCCTGCCCTTCATGAAGCAGAACCCTAGACGCC  
 Cattle TTATGTCTGATATGCCAAAGCCTGCCCTTCATGAAGCAGAACCCTGGACGCA

Chicken TTATGTCTGAGATGCCAAAGCCTGCCTTTATGAAGAAGAATCTGGATGAA  
Chimpanzee TTATGTCTGATATGCCAAAGCCTGCCTTCATGAAGCAGAACCTGGATGAG  
Dog TTATGTCTGATATGCCAAAGCCTGCCTTCATGAAGCAGAACCTGGATGCC  
Human TTATGTCTGATATGCCAAAGCCTGCCTTCATGAAGCAGAACCTGGATGAG  
Mouse TTATGTCTGACATGCCAAAGCCTGCCTTCATGAAGCAGAACCTGGATGAG  
Rat TTATGTCTGACATGCCAAAGCCTGCCTTCATGAAGCAGAACCTGGATGAG  
Western\_Claved\_Frog TTGTGTCTGAGATGCCAAAGCCTGCCTTCATGAAACAAAATTTAGAGGAG  
Zebrafish TTGTTTGTGAGATGCCAAAGCCTGCCTTCATGAAGCAGAACCTGGAGGAG  
\* \* \*\* \* \*\* \* \* \* \* \* \*

C.\_elegans CTCGGAATCGGTGCCTGGGGTGACATTTCTGTGTTGCCACGTGGATACGCC  
Cat CTTGGCATCGGGACCTACCACAAACATCGCCTTCATCCACCCGGACACTCC  
Cattle CTTGGAATCGGGACCTACCATAACATCGCCTTCATACACCCGGACACTCC  
Chicken CTTGGAATAGGAACCTTACCACAAACATTCGCTTCATACATCCAGACACTCC  
Chimpanzee CTTGGAATAGGAACGTACCACAAACATTCGCTTCATACATCCAGACACTCC  
Dog CTTGGAATGGGACCTACCACAAACATCGCCTTTATCCACCCAGACACTCC  
Human CTTGGAATAGGAACGTACCACAAACATTCGCTTCATACATCCAGACACTCC  
Mouse CTTGGAATCGGAACGTACCACAAATATTCGCTTCATTACCCAGACACTCC  
Rat CTTGGAATAGGAACATATCACAAATATTCGCTTCATTACCCGAATACCC  
Western\_Claved\_Frog CTTGGGATCGGCACATACCACAAACATTCGCTTCATCCACCCACACTCC  
Zebrafish CTTGAGCATCGGGACCTACACAAACATTCGCTTCATTACCCGGACACTCC  
\*\* \* \*\* \* \* \* \* \* \* \* \* \* \* \*

C.\_elegans GATCCACGACGCTTTGGAGCTTTTCCTCAAGAATCGAGTTTCGGCACTTC  
Cat CATCATTAAGCCTTGAACGTCTTTGTAGAAAGACGAGTGTGGCCCTTGC  
Cattle CATCATTAAGCCTTGAACGTCTTTGTAGAAAGACGAGTGTCTGCCCTGC  
Chicken TATCATTAAGCCTTGAATATATTTGTAGAGAGAAGGATATCGGCATTAC  
Chimpanzee CATCATCAAAGCCTTGAACATATTTGTGAAAGACGAATATCAGCTCTGC  
Dog CATCATTAAGCCTTGAACGTCTTTGTAGAAAGACGAGTGTGGCCCTTGC  
Human CATCATCAAAGCCTTGAACATATTTGTGAAAGACGAATATCAGCTCTGC  
Mouse CATCATCAAAGCCTTGAACATCTTTGTGAGAGACGGATATCCGCATTGC  
Rat CATCATCAAAGCCTTGAACATCTTTGTGAGAGACGGATATCTGCGCTGC  
Western\_Claved\_Frog TATCATTAAGCCTTGAATATATTTGTGAGAGGAGAGTCTCGGCGCTGC  
Zebrafish AATCATCAAAGCACTCAGCGCTTTGTGAGACAGAAGAGTGTCTGCACCTGC  
\*\*\* \* \*\* \* \* \* \* \* \* \* \* \* \* \*

C.\_elegans CGTTAATGTGAAAAATGGACGAGTTGTTGATATTTATGCAAAGTTTGAT  
Cat CTGTGGTGGATGAGTCAGGAAAAGTTGTAGATATTTATCCAAATTTGAT  
Cattle CCGTGGTGGACGAGTCAGGAAAAGTTGTAGATATTTATCCAAATTTGAT  
Chicken CTGTTGTGGATGAGTCAGGAAAAGTTGTAGATATTTATCCAAATTTGAT  
Chimpanzee CTGTTGTGGATGAGTCAGGAAAAGTTGTAGATATTTATCCAAATTTGAT  
Dog CTGTGGTGGATGAGTCAGGAAAAGTTGTAGATATTTATCCAAATTTGAT  
Human CTGTTGTGGATGAGTCAGGAAAAGTTGTAGATATTTATCCAAATTTGAT  
Mouse CTGTGGTGGATGAGTCAGGAAAAGTTGTAGATATTTATCCAAATTTGAT  
Rat CTGTGGTGGATGAGTCAGGAAAAGTTGTAGATATTTACTCCAAGTTTGAT  
Western\_Claved\_Frog CCGTGGTGGGCGAGTCCGGAAGTTGTAGATATTTATCCAAATTTGAT  
Zebrafish CTGTGGTGGATGAGTCAGGAAAAGTTGTAGATATTTATCCAAATTTGAT  
\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

C.\_elegans GTGATCAGTTTGGCCGCCGAAAGTTCATATGATAAGCTGGATTGTACAGT  
Cat GTCATTAACCTTGCTGCTGAGAAAGACGTACAATAACCTAGATATCACAGT  
Cattle GTAATTAACCTTGCTGCTGAAAAACGTACAACAACCTAGACATCACGGT  
Chicken GTAATAAACCTTGCTGCTGAAAAACCTATAATAACCTAGATATCACGGT  
Chimpanzee GTAATTAATCTTGCTGCTGAAAAACATAACAATAACCTAGATATCACGGT  
Dog GTAATTAACCTTGCTGCTGAAAAACCTACAATAACCTAGATATCACAGT  
Human GTAATTAATCTTGCTGCTGAAAAACATAACAATAACCTAGATATCACGGT  
Mouse GTAATTAATCTTGCTGCTGAGAAAACGTACAATAACCTGGACATCACAGT  
Rat GTAATTAATCTTGCTGCTGAGAAAACGTACAATAACCTAGACATCACGGT  
Western\_Claved\_Frog GTAATTAACCTTGCTGCTGAGAAAACCTATAATAATCTTGACATCACCGT  
Zebrafish GTCATTAATCTTGCTGCTGAAAAACGTACAACAACCTGGACATTAGCGT  
\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

C.\_elegans ACAAGAGGCTCTGCAACATCGATCGGAGTGGTTCGAAGGAGTTC-----  
Cat GACCCAGGCCCTTACAGCACCGCTCACAGTACTTTGAGGGCGTGTGAAGT  
Cattle GACCCAGGCCCTTACAGCACCGCTCGCAGTATTTGAGGGGTGTAGTGAAGT  
Chicken GACACAAGCCCTACAGCACCGTCTCAGTATTTGAAAGGTGTGTAAAGT  
Chimpanzee GACCCAGGCCCTTACAGCACCGTTCACAGTATTTGAAAGGTGTGTGAAGT  
Dog GACCCAGGCCCTTACAGCACCGTTCACAGTATTTGAGGGGTGTGTGAAGT  
Human GACCCAGGCCCTTACAGCACCGTTCACAGTATTTGAAAGGTGTGTGAAGT  
Mouse GACCCAGGCCCTGACAGCACCGCTCGCAGTATTTGAGGGGTGTGGTGAAGT  
Rat GACCCAGGCCCTGACAGCACCGCTCACAGTATTTGAGGGGTGTGGTCAAGT  
Western\_Claved\_Frog GACGCAGGCCCTTAGAGCACCGATCGCAGTATTTGAAAGGGTGTGGTGAAGT  
Zebrafish GACGCAGGCCCTGATGCACAGGTCACAGTACTTTGAAAGGGTGTGAAGT  
\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

C.\_elegans -----  
Cat GCAGTAAGCTGGAAATACTGGAGACCATCGTGGACAGAATAGTGGGGCC  
Cattle GCAGTAAGCTGGAGATCCTGGAGACCATCGTGGACAGAATCGTGGAGCG  
Chicken GTAGTATGCTGGAAACACTGGAGACCATTGTTGATAGGATAGTGAAGGT  
Chimpanzee GCAATAAGCTGGAAATACTGGAGACCATCGTGGACAGAATAGTAAGAGCT  
Dog GCAGTAAGCTGGAAATCCTGGAGACCATCGTGGACAGAATAGTGGGGCT  
Human GCAATAAGCTGGAAATACTGGAGACCATCGTGGACAGAATAGTAAGAGCT  
Mouse GCAGTAAGCTGGAAACACTGGAGACCATCGTGGACAGGATAGTGGAGCC

Rat GCAGTAAGCTGGAAACACTGGAGACCATTGTGGACAGAATAGTGAGAGCC  
Western\_Claved\_Frog GCAGTAAGCCGGAGACTGGAGACGATCGTGGATCGGATAGTGAAGGCA  
Zebrafish GCAACAGATTGGAGACTGGAAACAATAGTCGATCGCATAGTCAAGGCT

C.\_elegans -----  
Cat GAGGTGCATCGGCTGGTGGTAGTAAATGAAGCAGATAGCATCGTGGGTAT  
Cattle GAGGTCCATCGGCTGGTGGTCTCAATGAAGCCGATAGTATCGTGGGAAT  
Chicken GAGGTTCATCGTTTGGTGGTAGTGAATGAAGCAGATAGCATTTGTGGGTAT  
Chimpanzee GAGGTCCATCGGCTGGTGGTAAATGAAGCAGATAGTATTTGTGGGTAT  
Dog GAGGTCCATCGGCTGGTGGTAGTGAATGAAGCAGACAGCATTGTGGGTAT  
Human GAGGTCCATCGGCTGGTGGTAAATGAAGCAGATAGTATTTGTGGGTAT  
Mouse GAGGTCCATCGGCTGGTGGTAGTGAATGAAGCAGATAGCATTTGTGGGTAT  
Rat GAGGTCCATCGG-----  
Western\_Claved\_Frog GAGGTGCACAGACTGGTAGTTGTAGATGAAGCAGACAGCATTGTGGGAAT  
Zebrafish GAGGTGCACAGGCTGGTGGTGGTAGGATGAGAACGGCAGCATCGTGGGCAT

C.\_elegans -----AGACATG-----CCTG-----  
Cat TATCTCCCTGTCAGACATTCTGCAGGCCCTGATACTCACGCCCGCAGGTG  
Cattle TATTTCCCTGTCCGATATTCTGCAGGCCCTGATACTCACCCCGCAGGTG  
Chicken CATCTCCCTTTCTGACATTCTACAGGCTTTGGTACTCACACCAGCAGGTG  
Chimpanzee TATTTCCCTGTCCGACATTCTGCAAGCCCTGATCCTCACACCAGCAGGTG  
Dog TATCTCCCTGTCAGACATTCTGCAAGCCCTGATACTCACGCCCTGCAGGTG  
Human TATTTCCCTGTCCGACATTCTGCAAGCCCTGATCCTCACACCAGCAGGTG  
Mouse TATCTCCCTGTCAGACATCCTGCAAGCCCTGATCCTCACACCAGCAGGTG  
Rat -----  
Western\_Claved\_Frog CATCTCCCTGTCAGACATTCTACAGGCCCTTAGTGCTCTCTCCAGCAGGTG  
Zebrafish CGTCTCTTTGTGTCAGACATCCTCAAGCACTCGTTCTCAACCCCGCAGGTA

C.\_elegans -----GAAACGGATT---C-CCTGTT-----  
Cat CCAAACAAAAGGAGACGG-----AAACCGAATGACC-GCTGTGAGTGG-  
Cattle CCAAACAGAAGCAAACGG-----AAGCTGAGTGACC-CCCGTGAGCAG-  
Chicken CCAAACAAAAGGAGAATG-----AAAGTGAATGACT-GCTGTGAATGT-  
Chimpanzee CCAAACAAAAGGAGACAG-----AAACGGAGTGACC-GCCGTGAATGT-  
Dog CCAAACAGAAGGAGGCAG-----AAACAGAATGACC-ACTGTGAGTGG-  
Human CCAAACAAAAGGAGACAG-----AAACGGAGTGACC-GCCGTGAATGT-  
Mouse CCAAACAGAAGGAGACAG-----AGACTGAATGACC-GCCGTGAATGT-  
Rat -----  
Western\_Claved\_Frog CCAAAGGAAGGAGAGTG-----AAGCAGAATGACC---GTGAATGC-  
Zebrafish TGTTAGGTAAGGACAGTGAAGCGGAGGCTGAGTGAAAAGTGATGAAAAGTC

C.\_elegans -----CC-----AAGTACTTGA--AGCAA-----  
Cat -A-----GAAGCCCTCGTAGGAGAACTTGA--ACAAAGATTCTGGGTCA  
Cattle -A-----GGAGCCCTTGCAGGAGAACTTGA--ACAAAGATGCTGGGTCA  
Chicken -A-----TAAACGTTTGTAGGAGAATCTGA--ACAAAGTTTCTGGGTCA  
Chimpanzee -A-----GACGCCCTAGGAGGAGAACTTGA--ACAAAGTTTCTGGGTCA  
Dog -A-----GCAGCCCTTGGAGGAGAACTTGA--ACA--GATTCGGGTCA  
Human -A-----GACGCCCTAGGAGGAGAACTTGA--ACAAAGTCTCTGGGTCA  
Mouse -A-----GACGCCCGCAGGAGAACTTGA--ACAAAGTCTCGGGGTCA  
Rat -----  
Western\_Claved\_Frog -A-----GAACA-----TATAA--ATATATATA-----TA  
Zebrafish TACGTGACGGTGTGTCAGAGAAGACGACGACACAATG---ATGATCA

C.\_elegans -----TT-----GTGAA-----GG--  
Cat CG-CTTTGCCT-----CATGAACACTG--ACCGTGTAGAGA--  
Cattle CG-CTTTGCCT-----CATGAACACGG--ACTGCGAT-GAACA--  
Chicken AG--TTTGTCT-----CGAGAACAGTG--ACTGCAATAGAACA--  
Chimpanzee CG-TTTTGCCT-----CATGAACACTG--GCTGC-----  
Dog CG-CTTTGCCT-----CATGAACACGG--ACCGTGACAG-AGA--  
Human CG-TTTTGCCT-----CATGAACACTG--GCTGC-----  
Mouse CG-GTTTGCCT-----CATGAACACTG--GCTGCAATAGAAGA--  
Rat -----  
Western\_Claved\_Frog ----TATATAT-----AATATATA-GA--ATTTTTTTA-AAGA--  
Zebrafish CAAGTTTGGCCACATCTCCGATGAAACCAGAAAACCTTGACCA-AGATG

C.\_elegans -----C-----AGAA-----GTTTCATC--  
Cat ----CCGTAA-AATGGCT--AAGAATGTA---TAGCA--GGGTTTAGCGA  
Cattle ----CAGCAAAAACGGCT--GAGAACGTGTGGTATCA--GGGTTTAGCGA  
Chicken ----GAGCAG-GATGGTT--GAGAATGTG---TTTTG--GGACTTAGTGA  
Chimpanzee ----A-AGTGGTT--AAGAATGTA---TATCA--GGGTTTAAACGA  
Dog ----CAGTAA-AATGGCT--AAGAATGTA---TATCA--GGGTTTAGTGA  
Human ----A-AGTGGTT--AAGAATGTA---TATCA--GGGTTTAAACGA  
Mouse ----GAGTAA-AATGGCT--AAGAATGTA---TACCA--GGGTTTAGCGA  
Rat -----  
Western\_Claved\_Frog ----AAAGAAGAAC-TTG--AATGATGTTT-----TTTTTGCCT  
Zebrafish TGTGCTGTTG-GAGGGAGAAAAAAGAA--CTGTCAATGGTTAAACAGA

C.\_elegans -----GATTGAT--T-----GTGA-----CTGATCAG  
Cat TGGGT-----ATTTTTT---CCAGTGA----CGTTGAAACTGA---G  
Cattle TGGGT-----TTTTTTTCCCCAGTGA----TGTTGACACGAA---G  
Chicken TGGATGATGAGTCTATTCCCCCAGTGA----TGTCGCAAAAAA---A  
Chimpanzee TAGGT-----ATTTCTT---CCAGTGA----TGTTGAAATTA---G  
Dog TGGGT-----ATTTTTT---CCAGTGA----TATTGAAACTGA---G  
Human TAGGT-----ATTTCTT---CCAGTGA----TGTTGAAATTA---G  
Mouse TGGGT-----ATTT--TT---CCAGTGA----T--TTGTA---A---G  
Rat -----  
Western\_Claved\_Frog C-----AA--TCTTTT---GCCTCAGAAA----CCCTGAA--TGCA---A  
Zebrafish CGGGT-----TGTTTT--T--ATCATAAACGGGCGATTAAAGGA---T

C.\_elegans GAT---AAG--AA-----G-----  
Cat CAT---AAGAA---AC--AGGTTTTATGTGTT--TGAAGAT--TCA---  
Cattle CAT---AAAAA---GAGAAAGCTTGTATGTGTT--TGAAGAT--TTCA---  
Chicken CAA---AGCAGCATGACA--AAAGCTTATG--TT---ACAAT--GTA---  
Chimpanzee CTT---AAAAA---AGAAAGATTTTATGTGCT--TGAAGAT--TCA---  
Dog CAT---AAGAA---AC--AGAGTTTATGTGTT--TGAAGAT--TCA---  
Human CTT---AAAAA---AGAAAGATTTTATGTGCT--TGAAGAT--TCA---  
Mouse TAT---AGGAA---A--AGATTTTATGTGCT--TGAAGAT--TCA---  
Rat -----  
Western\_Claved\_Frog CAG---AGG---AAC---ACAAC---TGGACA--GGAATGT--GCA---  
Zebrafish CATCTCTTATTC---AGAAGTACTGTGAACCTTATTATAT--CACAC

C.\_elegans -----G-----TCGTCGGAGTAGTCT---  
Cat --GCCTTGCATTAAGAACTGTTTTCAGACCTTCGTCTGAGCGATTTCAA  
Cattle --AGCTTGCATTAAGAACTGTTTTCAGACCTTCGTCTGAAAGATTTCAA  
Chicken --GGCTTGTATTTCAAAC--GTCTTCAGAACATTTGCTGGAAGACTTCAC  
Chimpanzee --GGCTTGCATTAAGAACTGTTTTCAGACCTTTGTCTGAAGGATTTTAA  
Dog --GGCTTGCCTTA--AAGACTGTTTTCAGACGTTTGTCTGAACGATTTCAA  
Human --GGCTTGCATTAAGAACTGTTTTCAGACCTT--GTCTGAAG-----  
Mouse --GGCTTGCCTTCAAAGACTGCCTCAGACC--TGTCTGAAGGATTTTCA  
Rat -----  
Western\_Claved\_Frog ---ACTGACGGTGTACGCGGGCTTTGTACC--GGTCCA--GCGTGGTCA  
Zebrafish TACGCTTCTGCACGCACACTACAACCTACTTTTAGCTA---GACCTAAA

C.\_elegans -----CAC--TGT---CTGATATT  
Cat AT--GCTGTATGTTATTAA-----AG---TGCAC--TGTGTCTGAAATT  
Cattle AT--GCTGTATGTCATTAA-----AG---TGCAC--TGTGTCTGCGTT--  
Chicken AC--GATGTCCTTCATTAA-----AA---TGCAC--TGTATTCTGAACCT  
Chimpanzee AT--GCTGTATGTCATTAA-----AG---TGCAC--TGTGTCTGAAATT  
Dog AT--GCTGTATGTTATTAA-----AG---TGCAC--TGTGTCTGAAATT  
Human -----  
Mouse AT--GCTGTATGTCATTAA-----AG---TGCAC--TGTGTCTGAAATA  
Rat -----  
Western\_Claved\_Frog C-----GAGCTCATTTA-----T-----TG-----GTG---GGAAC-  
Zebrafish ATCGCGCATCTGGTGTCTGAGCAGTCTTGCACACAGACTACGGGCGGT

C.\_elegans C-----TCAA--AA--TC--TCGT-----ACTGGA--TC  
Cat TTTTATTATTTTTCGTTTCAA--GAATTCACCTGGTCTG--TAACAGGTA--A  
Cattle T--TTATCTTTTTCATGTTAAA--GAAGTCACTGGTATCTTAACAGGCG--G  
Chicken --TTTTCATTTTGTATTTGACA--GAAGTCACTGGTCTG--CAATGGATATA  
Chimpanzee --TTCATTTATTTTCATTTCAA--GAATTCACCTGGTATG--GAACAGGTG--A  
Dog --CTTATTACTTTTTCATTTCAA--GAATTCACCTGGTCTG--TAACAGGTA--A  
Human -----  
Mouse --GTACTACTTTTTCATTTCAA--GAAGTCACTGGGATG--GAACAGGT---  
Rat -----  
Western\_Claved\_Frog GG--TTGTACTTTT--TTTCAA--AAA--TAATT---TTT--GACA-----  
Zebrafish A--CCATAATCGCTCTTTTCGAGGGGGTGTCTGTGCGTC--TGCAGGCG--A

C.\_elegans CA--TGCCAAA-----AGCCTC-  
Cat TA--TGACATAAGGCGAGCGC--ATGGCTTCTCAGACC--TAGTGCCTTA  
Cattle CA--TGATGTAAGGCAAGTG---TGGCTATTAAGAAC--TAGAGCCTTA  
Chicken TG--TGACATAAGGCAAGTGT--ATGGCATATTCATA--ATAGTGCCTTA  
Chimpanzee TG--TGGCATAAGGTGAGTGC--ACGGTATGTTTCAGATC--ACAGTGCCTTA  
Dog TA--TGACATAAGGCGAGTGC--ATGGCTATTCAGACC--TAGTGCCTTA  
Human -----  
Mouse ----GACAGAAAGTGAGTGA--ACGGCAGTCCAGATC--ACGGTGCCTTA  
Rat -----T-----  
Western\_Claved\_Frog -----TATTGAAAATG---AGGC-----C--CTAGCGCTTCA  
Zebrafish TTCAGTAATAAATCTCAGTATTTCAGTGCATGTTATGACTGTTTGTTCCTCG

C.\_elegans -----CACC-----ACCACCACCAATCC-----C-----  
Cat TGTCGGAACA--GTGATA---TGTCACTACTGCGGCCG--TG---GC  
Cattle CGTCGGAACA--GCGGCC---CGTCACCACCGCTGCCG--CGGCGGCC  
Chicken TGTCAAATA--CAGCAATA---TGTCACTACTGTTGCCCA--TC---A-  
Chimpanzee TGTCCGAATA--CAGCAATA---TGTCAACCGCCGACGCCG--GG--T--GC

Dog TGTCAGAACAC-C-GCGATA----TGTCACCATTGCGGCCCG-TG----GC  
Human -----  
Mouse TGTCCTAAA---C-GCAATA----TGTCACCGCCGCTGCCGCACG-C-CCC  
Rat -----  
Western\_Claved\_Frog TGCTGTGACGT-T-ACGAT----TGTCAT----GTTACCTA-----  
Zebrafish TGTGTATA---CGGTTTTTCAGCTTGTGGC-GTATGAGCCC-GG-A-TCAC

C.\_elegans -----AACAA-GCGG-GTG-----GTGG-----  
Cat --A-----GCT-GGAGCCAC-ACG-GTGCTG-GGGCGTGA-----CA  
Cattle GGAGCGTG-TCCC-GGCGAGGCGGCA-CTGCTG-GAGTGTGA-----AC  
Chicken -----CTGTC-AAAG-----G-----AA  
Chimpanzee --AC-GTG-TG-T-GAAACAAC-ACC-GAGCTT-GAATGTGG-----AA  
Dog --A-----GCT-GGAGCCAC-ACG-GTGCTG-GGGCGTGA-----GC  
Human -----  
Mouse --AAAGTGCTGCT-GAAGAGAC-ACC-CAGCCC-AAGTGTGA-----GC  
Rat -----  
Western\_Claved\_Frog ---AT---AAGCT-GTATGCGC-AT---AGCA-----T-A-----GT  
Zebrafish ATA-TTTG-TACTTTTACTAC-TCCTGAATTTAGGATCTGGTTTTGTCT

C.\_elegans -----T-GG---T-CCA---CCAA-----CTC-----  
Cat GT-CTTT--GGACCT-TTA---CCAA-----ATCAGTTTGTTCAT  
Cattle G--CGCT--GAACCT-TTA---CCAG-----ATCAGTT-TGTTTTCAT  
Chicken GT-AT-----AGAC-A--CTGT-ATTGA--ATGTGAA-AG--T-CTT  
Chimpanzee GT-CTTT--GAACCTTTTA---CCAA-----ATCAGTT-TGTTTTCTT  
Dog GT-CTTT--GGACCT-TTA---CCAA-----ATCAGTT-TGTTTTCAT  
Human -----  
Mouse AT-CTTC--AGACCTTTTA---CCCA-----GTCCTTT-CCTTTTCAC  
Rat -----  
Western\_Claved\_Frog G--CTCT--GTATC-AGTC---CAA-----AGAACTT-TGCAT-TAT  
Zebrafish CTCTTCGCGATCCCTTTGTAAACGCAGACAGAAATGGTTT-CCT-CCTC

C.\_elegans -----  
Cat TAGATTTGTCAAACC-G--TTGTAATTTGG--ATATAAATCAT-TACTT-  
Cattle TCAATTTGTTGACTA-G--CTGTAATCTGA--ATATAAATAATTTACTT-  
Chicken TAAATG-----AGAC-A--CTGT-ATTGA--ATGTGAA-AG--T-CTT-  
Chimpanzee TAGATTTGTCAAAAA-G--TTGTAATTTGA--ATATAAATAAT-TACTT-  
Dog TAGATTTGTCAACA-G--TTGTGATTTGG--ATATAAATAAT-TACTT-  
Human -----  
Mouse TTAATTTGGTTGAAAA-G--TTTAAATTTGA--GTACAGGCAAC-TG-----  
Rat -----  
Western\_Claved\_Frog GGGATACGATGCCCA-G--CACTG-TCAGC--GGGTGGGGAAC-CGGTGG  
Zebrafish TTTATCTGTCTATGGTGCCTTCTGTCCAGCAGTTATCGCCCACT-ACTGG

C.\_elegans -----  
Cat -TGTAAC-----ACTTCA-ATGGCAGTTTACGT-----TTAAGT---  
Cattle -TATAAA-----ATTTTA-ATGATGGTCTTACGT-----TTAAGT---  
Chicken -T-AA-----AC-----  
Chimpanzee -T-AAA-----ATTTTA-ATGACACTTTTACAC-----GTAAGT---  
Dog -TATAAA-----ACTTTA-ACGACAGTTTATGT-----TTAAGT---  
Human -----  
Mouse -----AAA-----ATGTGATGTGATGCCTTAAGCGCTCTGCATCC---  
Rat -----  
Western\_Claved\_Frog GTGCAAA-----GCGAC-ACTG-TA-CTGAATGT-----GAAAGG---  
Zebrafish TTGCCAATAGATCAAGATTAAGTGA-ATGTTGATAT-----CAAAGCGAA

C.\_elegans -----  
Cat -GT-----CTGTTCTGA--ACTACAGTGTAG-ACAAAAC-T-GCTTTAC  
Cattle -GTT-----CCGTTCTGA--ACCACAGTGTAACAAGGC-T-GACTTAC  
Chicken -----C-----TAAACCAA-----  
Chimpanzee -GTT-----TTGTTCTGG--GCTACCGTGTC-ACGAGGC-T-GCTTTAC  
Dog -GT-----CTGTTCTGA--ACTATAATATAA-ACAAAAC-T-GCTTTAC  
Human -----  
Mouse -GTC---CTGTTCTG---GCTGCCGTGTTA-GCGAGGC-CGGCTTGGC  
Rat -----  
Western\_Claved\_Frog -GCT---GCCAACTAA--AGCCACATGTAA-ACTTGCC-CG-CCT---  
Zebrafish TGTGTCAGTTGTTTTAAAAAGAAGAAATAACAACCAAACCCCTTTT

C.\_elegans -----  
Cat AACAG--CTTTATT-----TATTT-TTACTTTCC-----TGCAATTTTTT  
Cattle AGCAG--CTTTATT-----TATTTTTTACTTTCA-----TGCAATTTTTT  
Chicken ATCAG--TTT-----TAAACCAA-----CAGTTCTC-  
Chimpanzee AACAG--CTTTATT-----TATTT-TTACTTTCA-----TGCAATTTTTT  
Dog AACAG--CTTTATT-----TATTT-CTACTTTCA-----TGCAATTTTTT  
Human -----  
Mouse AACAGCGCTTTATT-----TATTT-TTACTTCTCA-----TGCAATTTTTT  
Rat -----  
Western\_Claved\_Frog -----CTTATT-----TAGT-G---TATCC-----TGCGTTGC--

Zebrafish TGCC--GTTTTAGTGTGTGTGTCACGACTTTTATTTATTGCAGAGCT--

C.\_elegans -----  
Cat TTTCTTTTTTTTTTAAACAT---CCTGGTG-GGTAAGCCTCCCATGCCC  
Cattle TTAC-----ACATCTTTTTGGTG-GGTAAACTTGACCATACCC  
Chicken -----A-----TT-----AGACTTGT-C-----  
Chimpanzee TTAC-----ACATCT-TTTGGTGGAGTAAACTTCACCACATCC  
Dog TTAC-----ACAT---TGTGGTG-GGTAAGCTTCACCACACC  
Human -----  
Mouse ACCT-----ACATCC-TTTGGTG-AGTAGACGTCAACATACCT  
Rat -----TGGTG-----  
Western\_Clawed\_Frog CTGC-----AAAA-G-C---CC-CGC----CCCCCTCGCCA  
Zebrafish CTAC-----ACTTCTT-CACTTTGGGTGTTTCATCTTGATGTTT

C.\_elegans -----  
Cat GTTAATAAACCATC---GGTGGTTAT-TTTTAAAAGGCAAATTTCTC---  
Cattle ATGAATAAACCAT---GGTTGCTAC-TTTAAAAGGCAGTTTCTCATC  
Chicken -----ATAAAAG-----CTGTAA--TTTGAA-----  
Chimpanzee ATGAATAAACTCTC---AGTTA--T-TTTGAAATGGCAAATTTCTCATT  
Dog ATCAATAAACCAT---GGTTGTTAT-TTTTAAATGGCAAATTTCTC---  
Human -----  
Mouse ACGAATAAACCTT---GATTGTT-C-TCTCAAGTGGAATACTCTGGAG  
Rat -----GT-----  
Western\_Clawed\_Frog TTCATTGCA-CCAT---GGCTGTAG--TGTCTGG-GG----CTCAC--  
Zebrafish TTGTTTGAATGATGCTGTAAACGATAATTGAAATGTTTA-TTTATTTAT

C.\_elegans -----  
Cat ATTTAAG---TTTGGA--TCTGGAAGCGTAGGACTTCTAAAATA-----  
Cattle ATTTAG---TTCGGA--CCTGGAAGGATAAGACTTCTCAGAGA-----  
Chicken -TATCAG---T-----AGACTTCTTTAAAATTTA  
Chimpanzee ATTTAAG---TTTGGA--TCTGGAAGGACATGACTTCTGAAATA-----  
Dog ATTTAAG---TTTGGA--TCTGGAAGGACAGGACTTCTCAAATA-----  
Human -----  
Mouse ATTTTAG---TTTGGA--TCTGGAAGGCTATGCCTTC-CAACA-----  
Rat -----AG-----  
Western\_Clawed\_Frog ATC-AAG-----GGGGCACTGCTACGCCT-CTCT-CCG-----  
Zebrafish ATTTAACACTTTTGTAATTTTGAAGCGATA-----

C.\_elegans -----  
Cat GCCACTGTTAGAGT-----  
Cattle GCCACTGTTGGGTT-----  
Chicken ATGACAGTTTTGTG-----  
Chimpanzee GCCGCTGCTGGGTT-----  
Dog GCCACTGTTAGGTT-----  
Human -----  
Mouse GCCACTGTAGGGTC-----  
Rat -----  
Western\_Clawed\_Frog CTTACTGTCAGGCATTGGATACATACATACATACACACGGGCGATGGC  
Zebrafish -----ACCAAGCGTGAGATGGA

C.\_elegans -----  
Cat -----GGAAAAGCAGTTCCTG---A-AAGCACGGG---  
Cattle -----TTAAAAGCTGACGTTCTA---A-CAGCATGTG---  
Chicken -----TTAAATGTTG-----  
Chimpanzee -----TTAAAAGCTGAGGCTCTC---A-AAGTGTGGA---  
Dog -----TTAAAGGTGAAGTTCCTG---AAAAGCACGTG---  
Human -----  
Mouse -----TTCTAA---ACGTTTATG---A-AAACAGG---  
Rat -----T-----  
Western\_Clawed\_Frog A---GCGTTGGCTCAATAGGTGCGAC---CTG---A-CGCCAGGT---  
Zebrafish AAGAGTTGTTGAG-----CCCTATGCAGTAAACCATGTGCTG

C.\_elegans -----  
Cat -----TGAAAACGTGCT-CTGCTAGA-CTG--GGAACAGGCGGG-  
Cattle -----TGGAACCTGCT-CTGCAG-----G  
Chicken -----  
Chimpanzee -----GGAG--ACGTTGCCGT-----CA-----G  
Dog -----TGAGAGCTGTT-CTGTGAGA-CTG--AAACCAGGACGGG  
Human -----  
Mouse -----CTGTGGTCG-----CA-----G  
Rat -----  
Western\_Clawed\_Frog -----TGCTTGTTT---GATTT---  
Zebrafish GTCAAGGACTTGATGTTCAATGCAATTCAACCTTAAAAATCCCACTGTTG

C.\_elegans -----  
Cat -----

Cattle G---CTG---CAAAC-AAAGTG-CCCGGAAGA-TGT---CTATTTTTTTC  
Chicken -----C  
Chimpanzee G---CG---GGAGCC-AAGTG-CCGGGAAGA-TGT---CTATTTTTTTT  
Dog GTGTGAG---GAAACAAAAGTG-CCGGGAAGA-TGT---CTATTTTT-TTT  
Human -----  
Mouse -----GGA-AG-AAGTA-AC-GGAAGA-CGT---CTTTTTT-TTT  
Rat -----  
Western\_Claved\_Frog -----A---GAGCCC-AAATATATGAGACAC-TGAA--CAATAAATAATC  
Zebrafish TTTTTAGTTTGCCT-T-CAGTCCACGAGGTGACCGACCTCTTGTGTGTAT

C.\_elegans -----  
Cat -----  
Cattle CTTGTGTTTTG-ACATG-AAAATCA-TGATGTC-TG-----TAT  
Chicken ATTCTGAACCG-AGATGTAACAACGA-----G-----ACT  
Chimpanzee CTTGTGTATTG-AAATGTAACAATCA-TGATGTT-TG-----TAT  
Dog CTTGTGTATTG-AAATGTAACAATCA-TAATGTT-TG-----TAT  
Human -----  
Mouse ATTGTGTGTTG-AAATGTAACAATCA-TGATGTT-TG-----TGT  
Rat -----G-A-----  
Western\_Claved\_Frog ATTATTTATTT-TTACTTTAAATAA-AAAAAT-AC-----AAA  
Zebrafish CGATTGTACTGTACACATACACGCGCAGAGGTTCTGTCTGAGGACTCTAC

C.\_elegans -----GTAACG---CATCG-GGTACATCA-  
Cat -----  
Cattle GACTGCTG---ATGCGATTGTT-TTGTAAT-TTTACTGTGGCATAT---  
Chicken GATT-TTA---AAAAC--AGCTTTATTTATT-TTTACT-----  
Chimpanzee GACTGCTG---ATGAGATTGTTTTGTAAAT-TTTATGTGGCATAT---  
Dog GATTGCTG---ATGCGATTGTTTTGTAAAT-TTTATGTGGCATAT---  
Human -----  
Mouse GACCGCTG---ACAAGACG---CTTGTAAC-TTTATGTGACACATAAA  
Rat -----  
Western\_Claved\_Frog AAACCCA---AAACCTTTTTTTTTTTTTTTT-TTTTTAATTTTAC---  
Zebrafish AAGTGCCAGAGAAAGGCTATTTTTCTGTGTGTTCAACGTTGTTGT---

C.\_elegans A--CTGGC-----GGCGTTCGTCCA-----  
Cat -----  
Cattle GCAGTATTGTCATA-T-GGT-----TGA-GGAGAAAC-----  
Chicken -----TTCAT-----G-----  
Chimpanzee ACAGTATTGTCATA-C-AGT-----TGA-AGAGAAAC-----  
Dog ACAGTATTGTCATA-T-GAT-----TGA-AAAGAAAC-----  
Human -----  
Mouse ACAGTATTGTCATG-C-AGT-----TGA-AGGAAACTCTTTCCC  
Rat -----  
Western\_Claved\_Frog ACAGTTCTGG-----TGA-ACGGTAA-----  
Zebrafish AAAGCATT-TCATTTAAGTTGTTTTCCGCAGA-ACTGTC-----

C.\_elegans -----GTGAT-----TCTCCACCAC---ACAGTATTC-CAG  
Cat -----  
Cattle -----ACAATG-----T-TTCCTAGTGTA--AGTGCT--CTG  
Chicken -----ACAATT-----T-TTT-----  
Chimpanzee -----AATG-----T-TTCCTAATGTA--AGTGCT--CTG  
Dog -----ACAACG-----T-TTCCTAATGTA--AGTGCT--CTG  
Human -----  
Mouse CTCCCACACCCACACACCCACAG-CCCCCAGTGTC--AGTGCT--CTG  
Rat -----  
Western\_Claved\_Frog -----GAGCT-----T-TTTGCCATATC--ATTA----AT  
Zebrafish -----ACTGCT-----G-TT-GTCATGAGAGAGTAATGTCCA

C.\_elegans AAGGTATTGAAGTTGAAGATG-----A-----  
Cat -----  
Cattle AAAATGTTGACACTGTGTGTCGTGTGCTGTGTGTGTATACACAC  
Chicken -----AC-----ACATC-----TTTG-GTGGATA-----  
Chimpanzee AAAATGTTGACACTGTATAT-----ATATATA-----  
Dog AAAATGTCGACACTGTATAT-----ATA-----  
Human -----  
Mouse AAAATGTTGACTATATATC-----TGTGTGTGTATATA-----  
Rat -----A-----  
Western\_Claved\_Frog AAAGTGTGAT--TGT-TAT-----AAAA--A--  
Zebrafish GAGATACTGTAATTGCACATC-----ACTG-----GCA-----

C.\_elegans -----TGA-TGATGA---T--G-ACGA-AGAAGCTCCAC-CA--CCATC  
Cat -----  
Cattle ACACATGA-GTATAGT-TT--GG--TTTTT-TGTTTTGGGGT-----  
Chicken -----GC-TA--AGA--TTTC-A-----  
Chimpanzee -----TGA-GGATAGT-TT--GGGTTT-TTTTGTGTTTTGGGG-----  
Dog -----TGA-GTATAGT-TT--GATTTTTTTTTGTTTTGGGGT-----  
Human -----

Mouse -----TGA-GCAGAGT-TT--GGGGGT---TTGTTTTGGGGTTTTGTTTC  
 Rat -----TGAAGCAGA-----T-----  
 Western\_Clawed\_Frog -----A-----AAAAA-AAAAAAAAAAAAAAAAAAAAA---A-----A--  
 Zebrafish -----TGA-GGATGCTAAT--GGATAA-TCATGCTTTAGATTTCTTTTTTC

C.\_elegans AATTGATT-----GCTCAA-----C-----ACCGGGCCCGT  
 Cat -----GTT--ATGAGCAGACAGAGTGCCGG-----GAAGACGT--  
 Cattle -TTTTTTTT--TTCAGATTGAAAA-CTTA--AA-----ATAAATCT--  
 Chicken -CCATATC-----  
 Chimpanzee -TTTTTTTT--TTCAGATTGAAAA-ATTA--AA-----ATAAATCCTAC  
 Dog -TTTTTTTTTTGGCAGATTGAAAA-ATTA--AA-----ATAAATCT--  
 Human -----G-ATTTT-AA-----ATGCTGTATGT  
 Mouse GTTTTGTTT--TTCAGATTGAAA--ATTA--AA-----ATAAATCCTGT  
 Rat -----  
 Western\_Clawed\_Frog --AAAAAAA--AAAAAAAAAAAAA--A-----AAA  
 Zebrafish -----ATT--TTATGGTTAAATA-ATTA--AAAAAAGAATAACAAAGT

C.\_elegans CT-TC----TGCC---GCAACGTAG  
 Cat C-----TA---TTTTTTT  
 Cattle -----TA-CTATCTGCC  
 Chicken -CA---T--TAAT-----AACTG  
 Chimpanzee -TAT---CTACC-ATTTGTAAA  
 Dog -----TA--CTATCGAC  
 Human -CATTAAAGTGCA-CTGTGTCCCTG  
 Mouse CTACCAGTTTGCTAAAGTTTTTATG  
 Rat --A-----CT-----AT  
 Western\_Clawed\_Frog -AA--AAAAAAA-AAAAAAAAAAAA  
 Zebrafish GT-CTAGAAAAA-AAAAAAAAAAAA