

Motif 1

ENSMUSG00000042354

>NM\_206826 CGTGACC

ACAGTTCCCAAAATCCCGGATTCTT**TGTGGTGT**-----TGAGAAGCTGAAATATCT  
ACAGTTTACAAAACTC-AACTCGT**CGTGACGGT**TACAAATGAGAAGCTTAAGTACCT  
ACAGTTTAAAAACACTC-GATTTCGT**CGTGACGGT**TACAAATGAGAAGCTTAAGTACCT  
ACAATTT-TAAAACCTC-GATTTTC**CGTGCTGCT**GCAGAGAAGACACTTCAGTATCT  
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ENSMUSG00000042354

>NM\_206826 CGTGACC

GCACTTTACGGCGGCGAGCGTAAGT**GCGTGACGCT**CGTCAGTGG----CTTCAGTTCA  
ACACTTTCCGGCAGGTCTCTGGAGC**GCGTGACGTT**TGAACCGCAG----TTCCAGTTCCG  
ACACTTTCCGGCAGCTTCTTGGAGC**GCGTGACGTT**TGCCCCCAG----TTCCAGTTCCG  
gcgcTTTACGGCGGTAGCGTCCGGT**GCGTGACGCT**CGGGCTTGGCTGCCTGCGAGTCA  
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ENSMUSG00000010760

>NM\_003311 GTCACGA

CTTCCCAGGGCTCCCCGGC--**GTGAGTCATCG**CGGCAGGGCTGGCTGC-AGCGCAT  
CTTCCCAGGTCTTCCCGGCCCG**TGAGTCACG**AGGGCAGGGACCGCTGA-GGTGCAT  
CTTCCCAGGGCTTCCAGCTCC**TGAGTCACAG**CGGCAGGGCTGCTGA-GGTGCAT  
CTTCCCAGGGCTCCCTGG--**GTGAGTCAGCG**CGGCAGGGCCGGCCGCTGCGCTT  
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ENSMUSG00000030619

>NM\_003797 GTGACCG

-GATCTTCGATTTGC-GGAGTTTGG**GAGACTT**TATTAAAG--GGGGTTTGTGTCCG  
AGATCTCTGGCTTGT----GTTTAC**GTGACCGC**-----GCGGTATGTATGC-  
AGATCTCTGGCTTGA--GTTTAT**GTGACCGT**-----GTGGTTATGTGTGC-  
ACATCTTCAACTTCAACGGGGTTTGG**GTGACTC**CTCTGAAGATGGGATTTTAGGTCTG  
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ENSMUSG00000038335

>NM\_018128 GTGACCG

----TCCCGCTGAAGCTC----**CCCTGACTTCT**GCCTGCTCCCTCTCCC----GA  
----TCTGGGCAAACCTCAACCACC**GTGACCGCT**CCCGACTTCTGGCCCCCTGGGAGA  
TACTTCTGGCCTAACCTAAACCACA**GTAACCGCT**CCCTACTCCTGGCCCCCTCG--GA  
----ACCAGCCAGACGCT----**CCTTGATTCTC**TGCCGCTCGTTTCCC----GA  
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ENSMUSG00000054079

>NM\_016001 GTGACCG

CCC<sup>^</sup>AAAC--TGAGG-----**GTGGTCTTT**TGATCACCTGCCTCAGTTCCTTG  
CTGGAACCACAGGG-----**GTGACCGTT**TGATCACCTGTCGCGACTCCGCG  
CTGGAACCACACGG-----**GTGGTCTTT**TGATCACCTGTCGCGACTCCGTG  
CCA<sup>^</sup>AACC--CAGGGTTTCTTTCTC**GTGGCCGTT**CGATCCCCTGCCCTG----TTG  
\* \* \*        \* \*        \* \* \*        \* \* \*        \* \* \*        \* \* \*

ENSMUSG00000054079

>NM\_016001 GTCACGTG

AGTTACGTAGAGGGAGGAGTGCT**GGTACGTG**GCAAGAGGCTGCGCAGGCTCCTTCC  
AGTGACGTAGC--GCGCAGCGCC**GGTACGTGG**CTTGC<sup>^</sup>GGCGGCGCAGACTCCTTCC  
AGTGACGTAGC--GCGT<sup>^</sup>GAGTGT**GGTACGTG**GTTTCAGGCGAGCGCAGGCTCCTTCC  
CGTTACGTAGG--GAGCGAGTGT**GGTACGTG**CGAGCGGGCCGCGCAGGCTCCTTCC  
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Motif 2

ENSMUSG00000030619

>NM\_003797 GCTCCGC

TAGTCAGGAAGCGCTGTCTCT-CCAAGTTCAAGATTAAGGAAACGTGGCATGCACAG-  
CACTAACTCGAAGTTGTCTCCCGAGCTCCGCATCAGGGA---CCGTAGACACAGA  
CACTATCTCTCGGTTGTCTTCCAACCCCGCATCAGGGACTCTAGACACGGACAC-  
TAAAGCGAGAGTATTGTCTCT-CCGAGCTCAAGATTAAGGACACTTGGCGTACGCCG-  
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ENSMUSG00000030619

>NM\_003797 CTCAGCGC

GACG-AACCCAGCGCAAGAGTACGCCACGGCGCTGCGCATCCCCTGACGGGTACTT  
TCCGTAACCCAGCGCGAGAAACGCCCTCAGCGCATGCGCACCTGCAAGTGGGACCCGT  
TCCGTAACCCAGCGCGAGAAACGCCCTCAGCGCATGCGCACCTCAGATTGGAACCTT  
GAC--AACCCAGCGCGAGAAACGCCCGCGCATGCGCAGGTCTGAGTCGGTAACCT  
\* \*\*\*\*\* \*\* \*\*\*\*\* \* \*\*\*\* \*\*\*\*\* \*\* \*

ENSMUSG00000038335

>NM\_018128 GCTCCGC

cgccgcagccactgccCGGTGCTCGGCTCCGCAGCCATCTTCCGAGCCCCGTATAT  
-----AGCCACTGCCCGGTGCTCAGCTCCGCAGCCATCTTCCGAGCCCCGTACAT  
-----AGCCACTGCCCGGTGCTCAGCTCCGCAGCCATCTTCCGAGCCCCG-----  
-----GAGCGCCG-----  
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ENSMUSG00000038335

>NM\_018128 CTCAGCGC

CCCTCGCCGCCTCCGCGCCTCTCGGCTCAGCGCCACACGCGAAGGCGGAGCCCCCGC  
CCCTCACCGCCTCCGCGCCTCCCGAATCAGCGCCACACGCGAGGCGGAGTCCCCGC  
CCCTCACCGCCTCCGCGCCTCCCGAATCAGCGCCACACGCGAGGCGGAGCCCCCGC  
CCCTCGCCGCCTCCGCGCCTCTCTGCTCAGCGCC-ACGCGCAAGGGGAGCCCC---  
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ENSMUSG00000038335

>NM\_018128 CGCTGCGCT

CGGTTGGCGAACCCGCTAACACGGCGCT---CTCACGAGCTGCTGGAAAAGACCTTCG  
CGTCTCTGCGGACACT---CAGGGCGCTGCGCTTGCAGGCTGGCGGCAAAAACCTCG  
CGTGTCCGCGAGAGACT---CAGTACCCCGCGCTCGCAGGCTGGCGAAAAAAC-TCG  
CTGCGTTCGCGGAGACCGGACGTCCAGCT---CTTAAGGCTGGTGGGAGACCTATCG  
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ENSMUSG00000038335

>NM\_018128 CGCTGCGCT

CCACGCGCAAGGCGGAGCCCCCGCCCGCGCGCTCCCGGCGcgcgcgcgcgcgcgcgcgc  
CCACACGCGAGGCGGAGTCCCCCGCCCGCTGCGCTCCCCGCTGCAGCCGCCG-----  
CCACACGCGAGGCGGAGCCCCCGCCCGCTGCACTCCCCGCTGCAGCCGCCG-----  
C-ACGCGCAAGGGGAGCCCC-----  
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ENSMUSG00000015176

>NM\_004741 GCTCCGC

CGAGGGCGTGATCCCTGACGTAGAGCTCGCCTCCACAAGCTGG-CGGCCGGTGGG  
GAGGCGCTGGCATCTGACGTAGAAAGCTCCGCCCTC-TTAGTGGG-CGGCTCGTGGG  
CGGGAGCGTGACCTCTGACGT-AAAGCTCCGCCTCCTTGGGGGGGAAGGCTAGTGGG  
CAAAGGCGTGGCCGTGACGTAGTCTCGCCTCA-CAAGCTGA-CGGACGGAGGG  
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ENSMUSG00000015176

>NM\_004741 GCTCCGC

CCTCCACAAGCTGG-CGGCCGGTGGGCTCCGCCCTTAACCAAGATGGCGATACGCGT  
CCTCC-TTAGTGGG-CGGCTCGTGGGCTCCGCCCTTG-CAGGATGATGACGCGTGT  
CCTCCTTGGGGGGGAAGGCTAGTGGGCTCCGCCCTTA-CAGGATGACGACGCGTGT  
CCTCA-CAAGCTGA-CGGACGGAGGGCTCCGCCCTTAC-CAAGATGGCGACACTTGT  
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ENSMUSG00000015176

>NM\_004741 CCGCTGCGC

GCCCTGTGGAG---CCC-ACCCTTCCGTTATGCGC-CGCGCG-GCGCAATGACGTAA  
ACCTCGTGTGC---GCCACTCTTTCGCTGCGCGCGCGCGCG-ACTTGATGACG--A  
GCCTCGTGGGG---GCCATTC--TTCGCTGCGCGC--CGCGCG-ACGTGATGACG--A  
GCCCTGTGGAGTGTGCCGCCCTTCCGCTGTGCGC-CGCGCA-GTGCATGACGTCA  
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ENSMUSG00000042354

>NM\_206826 GCTCCGC

gggCC---CGCCCTGGGCC--Ggctcgcgcgcctgcagccccgcgcggtcac  
GGGCC---CGCCCCGGGCC--GGCTCCGCGCCTGCAGCCCCGGCTGCGGTCCC

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GGGAC---CGCCCCGGGCC--GGCTCCGCCGCTGCAGCCCCGGCCGCGGTCCC
gggcc---cgccccgggcc--ggctccggcgcctgcagccccggcgcggtcgc
*** ****
ENSMUSG00000042354
>NM_206826 CGCCGAGC
tgcagccccggcgcggtcacgaccgcgcgccccgccccgtggcgccacggctgc
TGCAGCCCCGGCTGCGGTCCCCGACCGCCGAGCCCGCCCCGTGGCCGCCACG---GC
TGCAGCCCCGGCCGCGGTCCCCGACCGCCGAGCCCACCCCGTGGCCGCCACG---GC
tgcagccccggcgcggtcgccgaccgcgcgccccgccccgtggcgccacggctgc
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ENSMUSG00000062223
>NM_003413 GCTCCGC
CGCCGCTCACCTGC---CAGGCACCCGGCGGCTGCCAATCAGCGGGGTCCG
GGCTGCCTCACCTGC---CGGGCGTCCGCAGCTACCCAATCAGCTGGGGTCCG
CGCCGCTCACCTGC---CAGGCCTCCGCCGCTACCCAATCAGCTGTGGTCCG
CGCCGCTCACCTGC---CAGGCCTCCGGCCACGCCAATCAGCGGGGTCCG
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ENSMUSG00000034826
>NM_017426 GCTCCGC
CTACGCCCTTGGCGCCTTCCGGCT-CTTAGGCTAGGTTCAGAAAGGAGGCGAACT-CTCCATCCTTGCTTGTTTCTGCTGCTCGCTTAGACCGGAAGGAGGCGAACTA
CTCCATCATCGCTTGGTTTCTCCCTCCGCTTAGGCCAGGAAGGAGGCGAACTA
CTGCGCTTCCGGCG--TTCGGCTT-CCGAGGCGCGCCAGAAAGGGCCGAACT-CTCCATCCTTGCTTGTTTCTGCTGCTCGCTTAGACCGGAAGGAGGCGAACTA
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ENSMUSG00000018239
>NM_017665 CGCAGAGG
-AGCTGTCTGGCCCGCCTACGTCTAC--GGCCTCCCGG-TTGGAAGCCCGCC-
-AGCCCGTCTGGCCCGCCAGGACCGCAGAGGTTTCT-----AAGGACCCGCC-
-AGCTCTTGGCCCGACAGAACTCAGAGGTTGTT-----AAGGCCCGCC-
-GGCCTCACTGGCTCCGCCACGCAAGC--GGACGCGGGTCGAAGTCCCGCC-
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ENSMUSG00000022474
>NM_002676 CTCAGCGC
ACCTGGCCCTCACGTACTG-ACCCCGAGCG-TCCTTGC-----CTGTGT
CCCAGGCCCTCTCGCCTTCCAGGCCTCAGCGCTCCCGCGCGGTTGGCATCCACGT
CCCAGGCCCT--CGGCCTTCCAGCCCGAGGCTCCCGCGCGGTTGGCATCCACGT
ACCCGTCCCGCAGTCAG--CCCCGAGCA-CCTGCG-----CCACCT
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ENSMUSG00000061024
>NM_015169 CTCAGCGC
---ACTAG---CAGTGCCGCTGCTC--GGCCAGCTCCG---CCTCTATCTGGCGC
-----AG---CTGGTAGCCAACCCTCAGCGCCAGTCGGG---CCAACATCCGGTGAC
CTTGTAGTCTTCAATCAGCCAACCTTTCAGCGCCAGTCTAG---CCAACATCCGGTTAC
---AAATG---TAGTCCAGACTCCT--GGCCAGCACCG---CCTACCTCCGGGCTC
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ENSMUSG00000002797
>NM_024051 CTCAGCGC
GGTCGGTGGGGACCGGCAGCCAATCAGGAGAGCGCTCGCTCCTGACTCGACCGGCCCA
CGCCGCAAG--CCGCAGCCAATCCTCAGCGCGCTCTCT-----GTGCGGCTC-
CGCCAGCAAG--CCAGCGGCCAATCCACAGCGCTCTCTCT-----CTGCAGCTC-
GTATAGCTGGGACCGACAGCCAATCAGAAGAGCGGTTCGCATCCGGTCGCCCGGCCA
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ENSMUSG00000022247
>NM_018321 CTGAGCGC
GGGAGTCGGTTTTGTGCAGCCC-----CGGCCACCAGCCCC-GCCTCCAACAAA-A
GGGTAACCGGGCTTGCTAGCACCTCTGAGCGCCACCAACCTG-GCTTGCAAGAGA-A
GAGG-----CCTGCTTAGCCCCTGAGCGCCACCAACCTTAGCCCCACAGACA
GCCAAACCGGCCCTCCCGCCCC-----CCAACTCT-GCCGTAAACGGA-A
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Motif 3

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ENSMUSG00000030619
>NM_003797 GTACCGT
AAGCGT---CTAGATATAATTCGGTAGCGCTTTGAAATCCACCTG-GGATTCGG
AGGCGTGTCCGTAGGCACTGATTTGGTACCGTTTTGAAATCCTCCCGAAGCTTCAG
AGGCGTGTCCGTAGGCACTGATTTGGTACCGTTTTGAAATTCTCCCAAGTTTTCAG
ACGCAT--CCCGACAGTCCGCCTCGTGGTCTTTGAAATCCACCCCG-GGCTACGG
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ENSMUSG00000030619  
>NM\_003797 TACGGTAT  
TAAGGGT-TGTCACCTCTAAGACCCT**TGTGGAAT**TTTCAGGATGGAAAGT-----GA  
GGGGCTGTGTCACTGT-AGAGCAC**TACGGTAT**CTTCAGGATGGAAAGT---ATAGA  
AGGGTGTGTGTCACTGT-AAAGCAC**TACGGAAT**CTTAAGGATGGAAAGT--ATATAGA  
TTGGATCGTGTCTCTCCTCGACCCT**TACCGATT**GTCCAGCACGGGAAGCGCAGTTACA  
\* \* \* \* \*  
ENSMUSG00000022940  
>NM\_153681 GTACCGT  
aaaagggtagtgataat**TGAAGGGATCTCGT**--GTTTGCTGAGTGTTCGGTGTGCC  
-----**AAAAGGGGTACCGT**TTGTTTGCTCAGT-TTATGTATGC-  
-----**TGAAGGG-TACCGT**TTGTTTGCTCAGT-TGATATATCC-  
aaaagatggtgataaAT**GAAAGGAATTTGC**--ACTTGGT--GTTTGATATGTCC-  
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ENSMUSG00000022940  
>NM\_153681 GTACCGT  
GGCGTCCAGGGCGCCACTGGAAAAG**GCAACGGCGCA**CTGGTACCAGCCCAAATTCACC  
GAAACTACAA-GCTTCTGAGAAAAG**GTACCGTGCA**GTGGTACCGACACAC-----  
GAAACTACAA-GCTTCTGAGAAAAG**GCAACGGTGCA**GGGATACCAGCACAC-----  
GGCGTCTACGGCGCTTTCAGGAAAA**GCACTCTGCA**CCGTACCAGCCCAAATTCACC  
\* \* \* \* \*  
ENSMUSG00000022940  
>NM\_153681 TGGTACCG  
CGCCACTGGAAAAGGCACGGCGCAC**TGGTACCA**GCCCAAATTCACCTACGTCTCGGCT  
-GCTTCTGAGAAAAGGTACCGTGCAG**TGGTACCG**ACACAC-----CCTCGGCT  
-GCTTCTGAGAAAAGGCACCGTGCAG**GGGTACCA**GCACAC-----CCTCGGCT  
CGCTTACGAAAAAGCACTCTGCAC**CGTACCA**GCCCAAATTCACCTACGTCTTGCT  
\* \* \* \* \*  
ENSMUSG00000022247  
>NM\_018321 GTACCGT  
aa-AAAGGCGCCT----ACTCT**GCGCATT**CGGCCCGAG----GGATGCTCCT  
AA-AAAAATGTCTTCACTCCCG**GTACCGT**CGGCTCCGAGAAGAAGGATGCTCCT  
AA-AAAAATGTCTTCACTCCCT**GTACGTT**CAGCTCAGAG-AGAAGGATGCTCCT  
AA-AGAGACGCCT----ATT**CGTCTCTG**CGGCCCGAG----GGATGCTCCT  
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ENSMUSG00000022247  
>NM\_018321 TACGGTAT  
tggaggaaaa----ttatctaag**ctacggttt**cctcgtct-----cc-gtaagag  
-----TCTCAAAA**CTACGGTAT**TCT-----  
-----TCTCAAAA**CTACGGTTT**CCTTGTCTGATACAGCC-GGAAAAAT  
TGGGGGGGAACGACTCTCCAAG**CTACGATT**CCCCGCCT-----CTAGCAAGGG  
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ENSMUSG00000038335  
>NM\_018128 ACCGTACC  
CGAGCCCCCGGGTCTTGACT**GACTTTACCTCCTT**CTTACGTTCCACAGCAGTT  
CGAGCCCCCTTGAGACCTTGCCCC**GACCGTACCTCCTT**CTTACGTTCCACAGCAGCT  
CGAGCCCCCT--GAGACCTTGCCCC**GACCGTACCTCCTT**TTTACGTTCCACAGCAGCT  
CGAGCCCCCGGGTCTTCCCG**GACTTTACCTCCTT**TTTACGTTCCACAACAGTT  
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ENSMUSG00000054079  
>NM\_016001 ACCGTACC  
CCTCTGCAGGCTCCGTACTCC**AAGGACCGTACCAAGAC**GAAAGGTGGAAAGCGTA--T  
CCTCGCAGGCGCGTACTCT**AAGGACCGTACCAAGAC**CACAAGTCGATGAGGTAATT  
CCTCTGCAGGCTCCGTACTCT**AAGGACCGTACCAAGAC**CAGGAGTCGATGAGGTAA-T  
CCTCGCAGGCTCCGTACTCC**AAGGACCGTACCAAGAC**GAGGGTGGGAGAGGCAA-C  
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ENSMUSG00000022474  
>NM\_002676 TGGTACCG  
ACC-----GAGTGTGGGATGCG**GCGGTACCCG**GCCCCCTGACATCCGG-GGCCACC  
ACCCTGTCGGAACGTTGGAGTGCA**GTGGTACCCG**--CTCCTG-----T  
ACCCGGTTCGGAACGTAGAATGC**GTGGTACCCG**--CTCCTG-----T  
ACC-----GAGTGTGGGACGCT**GCGGTCCCGG**-CCCCTGACGCCCCACGGCCGCT  
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Motif 4

ENSMUSG00000015176  
>NM\_004741 CGCGGAA  
AAAGGTACCTCCCCAGAAAGACT**GCGCGGGAA**GTCCCAGTTTTCCC GCCAC-GCCG  
AGAAGCCCATTCAGCAAAGTAA**TGCGCGGGAA**TTTGCAAGTTTCCC GCCTCGGACA  
AGAAGTCCATTTCAGCAGAGATA**ATGCGCGGGAA**TTTGCAAGTTTCCC GCCTCGGACG  
AAAGGTGGCTCTAGCAGAAAGG--**GCGCGGGAA**GCCTGAAGTTTCCC GCCTCGGCC  
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ENSMUSG00000062223  
>NM\_003413 CGGGAATT  
GGAGCGCAAAGTCTGCGCTCTCC**CCAGGATC**TGCGCCCTGCAGCTACAGAGGGGAC  
GGAACACAGATTTGCCCACTCAT**GCGGAA**TTTGTCTCGGTACCTACGGAAGGAAA  
GGAACACAGATTTGCCCACTCAT**CAGAAAT**TGTTCCCGGCACCTACGCAAGGAAA  
TGAACCTGGAGTTGCTATGCTCGCC**CCACGATC**GCGGCCCGCGGCCCGGAGAGGGC  
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ENSMUSG00000054079  
>NM\_016001 CGGACGGA  
GAACTCCACACGGGGCGGGGCTGG**GTAGGGGAG**CGGGAGTTACGTAGAGGGAGGGAG  
GAACTCCACATGGGGCGGGGCC**CGGACGGAG**TGGGAGTGACGTAGC--GCGCGAG  
GAACTCCACACGGGGAGGGGCTGC**CGAACTGAG**TGGGAGTGACGTAGC--GCGTGAG  
GAACTCCCTACGGGAGGGGCTGG**GGAGGGGAG**TGGGCGTTACGTAGG--GAGCGAG  
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ENSMUSG00000042354  
>NM\_206826 ATTCCGTT  
-----AAAAA**TAC**-----GGAAAGAAAATC  
-----AAAAA**ATTCCGT**TTGGGCGATCATTGGGAAAGAAAAA  
-----AAAGA-----GGAAAAACAAA  
CTGAAACACAGTCATCTAGAAGAAG**Gt**-----aaaaaaaaa  
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Motif 5

ENSMUSG00000020464  
>NM\_033109 CGTCCGAC  
---GGCACCGCGGAAACGAAACT**CATCAGGC**TCCGCCACGGTCTGCGGAGTGAG  
---GGCTCCACGGAACGAAACT**CGTCCGAC**TCCGCCACAGGAGTGCTG----G  
---GGTTCACGGAACGAAACCG**CGTCCGGC**TCCGCCACCTGCGGGCTG----G  
CCCCAGCACCGCGGAAACGAAACT**CCGACGGC**CCCGCCCGC-GCCTGCGGAGCGAG  
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ENSMUSG00000061024  
>NM\_015169 GACGTCCG  
CTTTCTTTTCCGATTTGGGCATCC**GGCATCTGCACGTG**GTTATGTGCGCGGAGTTTG  
TTTCTCTTCCGATTTACGGGTCC**GACGTCCGCACGTG**GTT-----TGCCG--GTFTA  
TTTTCTTTCGATTTACGAGTCC**GACGTCCGCACGTG**GTT-----GGCTGGTTTGTG  
CTTTCTTTCGGAACGAGCGTCT**CGCGGCGGCACGTG**CTTGCCTGCGGGGCGAG  
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ENSMUSG0000002247  
>NM\_018321 GTGACGTC  
TCTCGGGTCCCCGAGTGCAGAA**GGTGGGGT**CTGGACGCCCGAGAGCCCTTCTCAGC  
----GGGAGCCCCTGCG----**GGTGACGTCC**-GACCCCTCAAAGCCCCTGCCACC  
G---GGGAGCCCCGGGCCAGG**GGTGACGTCC**-GATCCCGTAAAGCCCTTGTACAGC  
TCCCGGATCCCGGACGCGAA**GGCGGGAT**CCGGGCGCCAGGGAGCCCTCCGCAGc  
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ENSMUSG00000020089  
>NM\_021129 GTGACGTC  
AAGCTTTTCCCTCAAATCAA**ACAGATGACGT**CAGTCTGAAA-CAAGACTGAGAAAG  
AAGCTTTGCTCCCTAGACAG**ACAGGTGACGT**CTAGCTAAGGA-CCTGGTGGGAGAAC  
AGGCTTTGCTCCCTCC----**CAGACAGGTGATGTCC**AGCTGAGGA-CCTGGAGGAGAAC  
AAGCTGTTCCCTCAGATCAA**ACAGGTGACGT**CAGTCTGGAAGCACGAGTGAGAAAG  
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Motif 6

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ENSMUSG00000035443
>NM_199298 CAATCA
CTACAGTTCCTTTTCTTGTATTATTCAGGCAAGCCCC-----TAGGCTG
TTTCAGTCCCTTCCACTTATTTGTCCAATCAAGAACC-----GACGCTG
TTCAAGTCTCTTCCACTTGTGTTGTCATTCAAGCACC-----GACGCTG
CCAGAGCCTCTTCTGTGTCTTCACTGCAGCAGGCTCCTTGGGGCTGCTGGGGCTG
  **   ***   * **   ** ** **   ****
ENSMUSG00000035443
>NM_199298 AGTGATTG
TTATAAACATT--CTTGGCAGAGAAG-----TCACAAAC-----TGGCCG----
TTCTGTTTTTTAGTTTTGGTATTTTAAAGTGATTGACAAATCTAAATATTTGGCTT----
TTCTGATTTTTGTTTTGGTATTTTAAAGTGATTGACAAATCTCAAGAAGTGGCTT----
----AAACCGAGGCTGGGCA-----TCCCTCGC-----CGGCCTCGTA
      * ** *           * *           ***
ENSMUSG00000035443
>NM_199298 CAATCA
CAAATTAAGTTCAGAGCCTAAAGCACTCAAGTTTGTGAGCTCTGG-TAGAGTTT
CAAGTTTTCTGCCAGTTTTTAA-ACAATCA-GTTTGTAAATCTCAGA-TAGGGTTT
CAAGTTTTCTGCCAGGCTCCTTAAACAACCA-GTTTGTAAATCTCAGA-TAGGGTTT
CACAGCATGGCCTGGTGCCTGAGGACGCTCG-GTCTGTAACTCTGGGTAGTTGCC
**   *   ** * ** ** * ** * **
ENSMUSG00000018239
>NM_017665 CAATCA
caataaatattaatttatatttagttcctaccgttctgtgcccagacattgggtataaa
AAATAA-----TTATTTTAGTACAATCACTC-----ACAGACAGTTTCTCTGAA
CAGTAA-----TACTTTTAGTACTAGCATTCCTTGACAGT--TTCAGTGTGAA
caataaataac---tgattcatcatctggttctcgcgtgtcagattttgggtgtgaa
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ENSMUSG00000030619
>NM_003797 CAATCA
TTGGTAGCAACTGG--AAGGATAATCATTCATTACAATAAATAGTCAACAGAATAA
GTGGCACCAACCGGTTGAATATAACCAATCATTGTAATAAGTATTTATTAGATAAA
GTGGCACCAACCGGTTGAATATAACCACTCGTTGTAATAAGTATTTATTAGATAAA
TCGGCA-CAAGTGGGTGAGAATCATCACTGATTAAAATAAATATTCATCGGCTTAG
  ** * *** ** * ** * ** * ** * ** * ** * ** * *
ENSMUSG00000022940
>NM_153681 CAATCA
CCAAAATGATTTGAGAATTTTGAGGCACACAAAAGGGAGAAAATGAGTGCCCGTG
TCAA- TAGTTTGGAAAGATATGAGGCAATCAAGTGGTAGAAAATGAAATGCCCACA
TCAA- AAGTTTGGAAAGATATGAGGCAATCAAGTGGTAGAAAATGAAATGCCCACA
TCGAAAGGATGTAGGAATTATAAGGAAACAGGAGA--AAGATTGAGTGTCCCC-
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Motif 7

ENSMUSG00000010760

>NM\_003311 CTACTATT

GGGAAGAGCCGGCTTTCGCTTCCCTGT--CTATTAAACCCTTTAAAGGAAGAGGGT---  
TGGAGGAGCTG-CGTCTGCTTCCCTACTACTATTAAACC-TTTAAAGGCAGAGGGT---  
TGGAGGAGCAG-CGTCTGCTTCCCTGCTACTATTAAACC-TTTAAAGGCAGAGGGT---  
GGGAGGAGCC--CGGCAGCGCTCGGCTCCTATAAACCC-TTTAAAGGAAGAGAGTTTa  
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ENSMUSG00000041438

>NM\_032830 CTACTATT

CCCCTTCTCTCCACCCCTCCA AATTAC-----AA  
CCA ACTTCCTTCAA ACTATCCCA AACTACTATTG-----GA  
CCCCATTTCTCCA ACTCCCTTCA AACTATCCC-----AA  
CCTCTCTTCCCA -CCCCTCCG AATCACCCCA GAAATTTTCGCTGGGACTTCTACCA  
\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

ENSMUSG00000022247

>NM\_018321 TGACAATA

-----CTCTTTAGTAatagcata t c g c a g t g g a a a a a g a g c a t a t a t t c t g g a a  
-----AAACGTGCATGACAATA-----ATACTGTAAA  
AAACATGCATTTCAATAAT--TATA TTGTA-----AAGAGTAAACATTCTCG--  
-----aagtagttgcc-----aaaaccatatactctggaa  
\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

ENSMUSG00000038172

>NM\_152574 ATTACAAT

agtcctggcacaatagtaaggactcaagaactattag---ctgttTTTACAGTTATCA  
AGTCCTAGTACACGATTAGTTCTCAATTACAATTAGTTTCCTGTTTATGTTTACA-  
AGTCCTAGTACATGATTAGTTCTCAGTTAAAAGTAGTTTCTTGCTTTTATGTTTACA-  
agtcctgatacatagtaagtaactcaataaatactag---ctATTTTATCATTATCA  
\*\*\*\*\* \*\* \* \*\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

ENSMUSG00000012396

>NM\_024865 ATTACAAT

GGGTACTCTGCAGCTA-CTTTTG CATTACAATG GCCTTGGTGAGACTGGTAGACGGG  
GGGTACCTTACAGCTT-CTTTTG CATTACAATG TCCATGGTGGACCCTGCAGGTGGG  
GGGTCACTTTACAGCTT-CTTTTG CATTACAATG TCCTTGGTGGGCTGGCAGGAGGG  
GGACTACCCGGCAGCGACCTTTTC CATTACAATG GCCTCGGTGAGACTGGCAGACAGG  
\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*





ENSMUSG00000041438  
>NM\_032830 CACGTGG  
AAAACGTGTGTGGATGCTATGCATACACGTGATAC-TTCCCATCACATTTTAGGATT  
AAAACGTGTTTAGAGACTATGCATCCACGTGGTACGTTCCCATCACGTGGCAGGATT  
AAAACGTGTTTAGATACTATGCATACACGTGGTATGCTCCCATCGCGTGGCAGGATT  
AAAACATGTGTGGATACTATGCATACACGTGGTACTTTCCCATCACATTTTAGGATT  
\*\*\*\*\* \*\* \* \*\* \*\*\*\*\* \*\* \* \*\* \* \*\* \* \*\* \*

ENSMUSG00000041438  
>NM\_032830 CACGTGGC  
ATGCATACACGTGATAC-TTCCCATCACATTTTAGGATTCACCGTT-GGAGGGAATC  
ATGCATCCACGTGGTACGTTCCCATCACGTGGCAGGATTCCTCCACT-GGAGGGAATC  
ATGCATACACGTGGTATGCTCCCATCGCGTGGCAGGATTCCTCCATT-GGAGGGAATC  
ATGCATACACGTGGTACTTTCCCATCACATTTTAGGATTCATGATGGGGGGGAATC  
\*\*\*\*\* \*\*\*\*\* \* \* \*\*\*\*\* \* \*\* \*\*\*\*\*

ENSMUSG00000041438  
>NM\_032830 CACGTGG  
CAGAGC--CTGAGAGCGC--GCGCGCACGTGGGCG----CGGGGCGGAGAGAGG-CG  
CGGCGCTGTTCGAGTGCACGCGCGCACGTGGGCG----CGGGGCGGAGAGAAG-CG  
CGGAGCTATAGAGTGCACGCGCGCACGTGGGAC----CGGGGCGGAGAGAGG-CG  
CAGAAC--ATGCAAGCAT--GTGCA TATCTGTGGA----CATGGCAGAGAGAGG-GG  
\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

ENSMUSG00000038335  
>NM\_018128 CACGTGG  
CCGGAAGCAGTGTGACTCCGTA CACGCGCG--CCTGCCCTCCCC---C---ATC  
CCGGAAGTAGAGTTCACTTGGTGCACACGTGGAC----CTGCCCGGGAC---ATG  
CCGGAAGTAGTGTCTTACTCGGTGCACGTGGG--C----CTGCCAGGGAC---GC-  
CCGGAAGTAGTGTGATGCGTGCACGTGAG--C----CTGTCT----CTAGATC  
\*\*\*\*\* \*\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

ENSMUSG00000061024  
>NM\_015169 CACGTGG  
TCCGGATTGGGCATCCGGCATCTGCACGTGGTTATGCTGCCGGAGTTGGGCCGCC  
TCCGGATTACGGGTCCGGACGTCCGCACGTGGT----TGCCG--GTTTAGGGTGCT  
TCCGGATTACGAGTCCGGACGTCCGCACGTGGT----GGCTGGTTTGGGCT--CT  
TCCGGAACGAGCGTCTCGGCGGCCGCACGTGCTTGCCTTGCCTGGGCGGAGAGCCGGC  
\*\*\*\*\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

ENSMUSG00000012396  
>NM\_024865 ACGTGG  
-----TCAAAGAGTTTTGTCTTC  
AGAGAGAGAGAGAGAGAGAGAGACTACGTGGT--TATTTCAAAACTTGAGTGTGG  
-----AAGAAGTTGTATTTCAAACACTTGAGTGTG  
-----TC--AGACTGCATCTCT  
\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

ENSMUSG00000022474  
>NM\_002676 ACGTGG  
GGACACCCGGG-GACC-----GAGTGTGGGATGCGCGGTACCCGGCCCTGA  
AGACACCTGCGCGACCTGTCCGAAACGTGGAGTGCAGTGGTACCCG--CTCCTG-  
AGACACCCGCGCGAGTCCGGTCCGAAACGTAGAATGCAGTGGTACCCG--CTCCTG-  
GGGCCCTCCAG-GACC-----GAGTGTGGGACGCTGCGGTCCGCGG-CCCCTGA  
\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

ENSMUSG00000022247  
>NM\_018321 ACGTGG  
AATAGACGAATGACTTGATAA-TGCATGAGCAACATTAGAGATCATGCTGTGCAC  
-----GAATGGTTAATCATTAACGTGGAACACTAGGGCTCTTCATCTTCAT  
A-----GGACAATTAATAA-TGCATGATGATAATTGAGTTGATACTAT--AC  
AACAGCCAAACAATCTGATAA-TGCATCAGTGATACCGGAGGTTACACTATGCAC  
\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

ENSMUSG00000035443  
>NM\_199298 ACGTGG  
GCTGCACAAAGGCAGCCAAAGAAAAACTTTTCTCGAAGAGCCTGTTTAGTACTC  
GCTGCA-AAAGGCAGCAGGTAAAGAACGTGGTCTTGTAAGGCGTGCTTTATTTT-  
GCTGCA-AAAGGCAGCAGGTAAAGAACGT--TTTGTAGGCGGTGATTGTTA-  
GCTGCAAAAATGCAGCCGGTAAAGGT---TTCTCTGGGATCTGTTAAGTGCTC  
\*\*\*\*\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

ENSMUSG00000002797  
>NM\_024051 ACGTGG  
agtaaatggcagcgtcgggatttaagccagcagcatgtaacttccaTGTAACAGGGA  
AGCAAATGGCA-TGTCGGGATCTGAACGTGGG-----AGA  
AGCAAATACCA-CGCCGGGATTTGAATGTAGG-----GTA  
agtaaagggcagcgtcgggatttgaaccccgcc-cgctagtccaTCCA---GGA  
\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

Motif 9

ENSMUSG00000054079
>NM\_016001 ACGACAT
AAAAAAGGAGCAACTTAACCAG-----GACATGAATGAGACTGAAGGGTCTAATAAG
AAAAAGGGAGCAACTTAACCAGGACACGACATGAATGAGACTGAAGGGTCTAATAAG
AAAAAGGGAGCAACTTAACCAGGACATGACATGAATGAGACTGAAGGGTCTAATAAG
AAAAAGGGAGCAACTTACAAG-----GACATGAATGAGACTGAAGGGTCTCATGCG
\*\*\*\*\*

ENSMUSG00000054079
>NM\_016001 CACGACG
GGAAAGCGTA--TTGGGGCTTGTGTCAAGTCAAGTGG-TTAC-AGCCAAGAGGAAAA
CGATGAGGTAATTGAGGGCGCGCGGCACGACGCGGGGCTCAG-AATCAGCAGGGCG-
CGATGAGGTAA-TGAGGGCTCGCGGGAAGACGCGGGGCTCAG-AGTCAGCAGGAAG-
GGGAGAGGCAA-CCGCGGTCTGAGGGAGGTCGAGTGGCTAACAAGTCAGGAAGAGGA
\* \* \* \* \*

ENSMUSG00000038335
>NM\_018128 CACGACG
CACACTGCGAAGTGGGAAAAGTTCCAGCGCGGCTTGGCGAACCCGCTAACACGGCG
AGGACTGCAGCGTGGGAAAAGGCACCACGACGTCTCTGCGGACACT----CAGGGCG
ACGACTGCAGCGTGGGAAAAGTTACACGACGTGTCCGACAGACT----CAGTACC
CCAACCGCCGCTGAGAAAAGTTTCTCCGTCGCTGCGGAGACGCGGACGTCCAG
\* \* \* \* \*

ENSMUSG00000024406
>NM\_002701 CACGACG
ATCAACTGCTGGCAGCCCTGGCAGGCAGGGGCCAGGTGGGAAGTGGAAGCTGGATT
GATGGTGCCGGGCTCCTGAGAAACGACGCAG-TGTGGACTAGAACCAGAAAT
AGTGGTGCCGGCCCTCCTGAGAAACAGGA-CAAGTTTGAAGTGAAGCCAGAAAT
GG-----CCTGAGAAACCAAGCAG-----
\* \* \* \* \*

ENSMUSG00000042354
>NM\_206826 TCGTCGTG
ATACACAGTTCCCAAATCCCGGATCTTTGTGTGT-----TGAGAAGCTGAAATA
----ACAGTTTACAAAACTC-ACTCGTCTGTGACGGTACAAATGAGAAGCTTAAGTA
----ACAGTTTAAAACTC-GATCTCGTGTGACGGTACAAATGAGAAGCTTAAGTA
GT--ACAATTT-TAAACCTC-GATTTTCCGCTGCTGTGAGAGAAGACACTTTCAGTA
\* \* \* \* \*

Motif 10

ENSMUSG00000041438
>NM\_032830 TGACTGAA
GAACAACTCAGAAGCTTTT-ACATACAACCGAATACAGATTATTTTATTTGTAGTGT
AACCAACCTTGAGTGTAT-ATATATGACTGAATACAAATCATTTTTATTACCAGTGT
GAACAATCTCGGGAGTTT-ATATATGCTGAATACAAATCATTTTTATTACCAGTGT
GAACAATTACGGAAGTTTTCATATACAATGAACACAGATTATTTTATTAGCAGTGT
\* \* \* \* \*

ENSMUSG00000041438
>NM\_032830 TGACTGAA
TATTTGTAGTGTATTCGTGTTTGTAACTGAAGGGGACA---GGTCTATACTTTTG
TATTACCAGTGTGATGTTGTTGTTGTGACTGAAGGGGATGTTT-GACCCA-GTTTCT
TATTACCAGTGTGATGTTGTTGTTGTTGACTGGAGGGGATGTTTGTAGCCTA-ATTTCT
TATTAGCAGTGTATGTTGTTT-TGTGACTGAAGGGGATG---ATCTTA-AGTTTCA
\* \* \* \* \*

ENSMUSG00000038510
>NM\_032194 ATTGAAGT
CTAGACGCCCTCTACGAGGCCGTCCCGGAAGTGGCGTTACCGCAGCTTCCGGTTCC
ACAGCCG-----GGCTGTCCATTGAAGTGGTATTTTCGC---ACTTCCGGCACC
CCCGCCG-----GGCTGTCTAAGGAAGTGGTATTTTCGC---ATTTCCGGCACT
-----GGCGGCCCCCGGAAGTGGCGTGCCTGCCGCAAGTTCCGGTCCC
\* \* \* \* \*

ENSMUSG00000054079
>NM\_016001 GACTGAAG
CTTAACCAG-----GACATGAATGAGACTGAAGGGTCTAATAAGGGTAGGCAGA-Caa
CTTAACCAGGACGACGACATGAATGAGACTGAAGGGTCTAATAAGGGCAGGCAAG-TGA
CTTAACCAGGACATGACATGAATGAGACTGAAGGGTCTAATAAGGGCAGGCAAGTTGA
CTTCAAG-----GACATGAATGAGACTGAAGGGTCTCATGCGGCGAGGCAAAA----
\* \* \* \* \*