

ENSMUSG00000022469 intron 14

Description: Rap guanine nucleotide exchange factor 3 (Rapgef3)
 Intron number: 14
 Mouse chromosome: 15
 Upstream exon length: 83
 Downstream exon length: 40
 Mouse intron length: 538
 Intron alignment length: 669
 Total murinae branch length: 0.23482
 K_score: 0.08642
 Scaling factor: 0.40374

ENSMUSG00000022469 exon 14 (ORF 0)

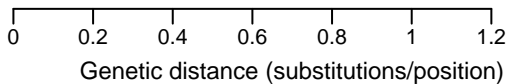
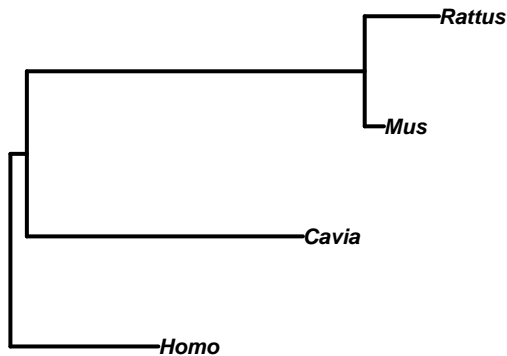
Mus	AAACTCTCAGACCTGGTGAAGCAGAGATGCCCGACTTAGCAACTTGCTGAGGGAAACAGTATCCAGAGAGAGACGGGGGACACCA	80
Rattus	AAACTCTCAGACCTGGTGAAGCAGAGATGCCCGACTTAGCAACTTGCTGAGGGAAACAGTATCCGGAGAGAGACGGGGGACACCA	80
Cavia	AAACTCTCTGACCTGGTGAAGCAGAGATGCCCGGCTCAGCAACCTAAGTGAAGGAAACAGTGGCCAGAGAGACGGGGGACATCA	80
Homo	AAACTCTCAGACCTGGTGGCAGGATGCCCGACTCAGCAACCTGCTGAGGGAAACAGTGGCCAGAGAGACGGGGGATCCA	80

Mus	CAG	83
Rattus	CAG	83
Cavia	CAG	83
Homo	CAG	83

ENSMUSG00000022469 exon 15 (ORF 1)

Mus	GTTGGAAAATGGCTGTGGGAAAGTATCTCCTCAGACCAAG	40
Rattus	GTTGGAACAATGGCTGTGGGAAATGATCTCCTCAGACCAAG	40
Cavia	GTTGGAAAATGGCTGGGGAGTGCATCTCCAAGTTGAAAG	40
Homo	GTTGGAACAATGGCTGTGGGAAATGCATCTCCTCAGATGAAAG	40

ENSMUSG00000022469_intron_14



Mus 61
Rattus 64
Cavia 61
Homo 110
Mus 147
Rattus 128
Cavia 198
Homo 220
Mus 248
Rattus 223
Cavia 286
Homo 327
Mus 329
Rattus 299
Cavia 286
Homo 437
Mus 431
Rattus 400
Cavia 312
Homo 546
Mus 530
Rattus 502
Cavia 399
Homo 636
Mus 538
Rattus 510
Cavia 408
Homo 644

ENSMUSG00000021238 intron 2

Description: Methylmalonate-semialdehyde dehydrogenase (Aldh6a1)
 Intron number: 2
 Mouse chromosome: 12
 Upstream exon length: 60
 Downstream exon length: 75
 Mouse intron length: 1583
 Intron alignment length: 3383
 Total murinae branch length: 0.18311
 K_score: 0.07773
 Scaling factor: 0.46395

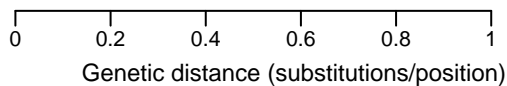
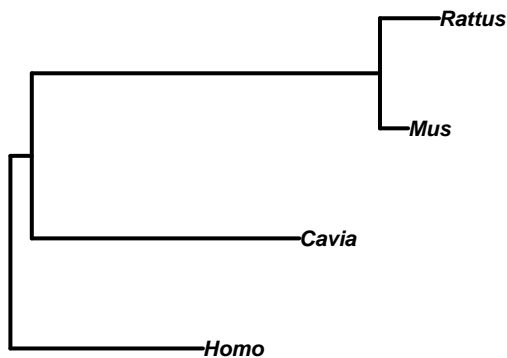
ENSMUSG00000021238 exon 2 (ORF 0)

Mus	GTTTCTTCTAAGGTAAGTAAATCCACATGGTATCCAGCATCTCCTTCTCTTGCATCAGTG	60
Rattus	GTTTCTTCTAAGGTAAGTAAATCCACATGGTATCCAGCATCTCCTTCTCTTGCATCAGTG	60
Cavia	GTTTCTTCTAAGGTAAGTAAATCCACATGGTATCCAGCATCTCCTTCTCTTGCATCAGTG	57
Homo	GTTTCTTCTAAGGTAAGTAAATCCACATGGTATCCAGCATCTCCTTCTCTTGCATCAGTG	63

ENSMUSG00000021238 exon 3 (ORF 0)

Mus	CCAAGTAAAGCTCTTCATTGATGGAAAATTTGTTGAATCAAAAAAGTGAATAATGGATTGACATCCACAACCCA	75
Rattus	CCAAGTAAAGCTCTTCATTGATGGAAAATTTGTTGAATCAAAAAAGTGAATAATGGATTGACATCCACAACCCA	75
Cavia	CCAAGTAAAGCTCTTCATTGATGGAAAATTTGTTGAATCAAAAAAGTGAATAATGGATTGACATCCACAACCCA	75
Homo	CCAAGTAAAGCTCTTCATTGATGGAAAATTTGTTGAATCAAAAAAGTGAATAATGGATTGACATCCACAACCCA	75

ENSMUSG00000021238_intron_2



ENSMUSG00000036733 intron 6

Description: RNA-binding protein 42 (Rbm42)

Intron number: 6

Mouse chromosome: 7

Upstream exon length: 176

Downstream exon length: 333

Mouse intron length: 508

Intron alignment length: 833

Total murinae branch length: 0.18830

K_score: 0.07239

Scaling factor: 0.46866

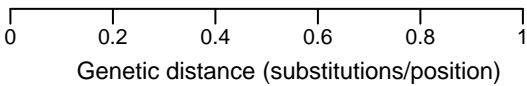
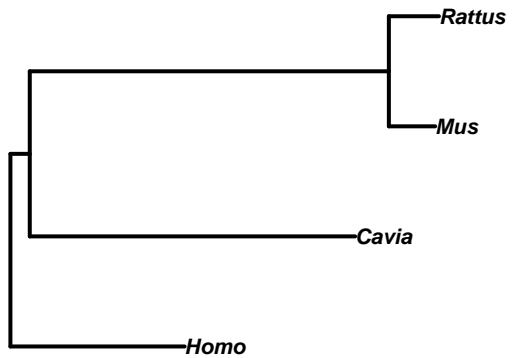
ENSMUSG00000036733 exon 6 (ORF 2)

Mus	TGCAGCTGGTGGCCCCCGACCTATGGCCCTGAGGGCCCTCCACACCAGGCCCTGGTTGGACCCCCCTCTGCCTGGGCCCTCCCTG	80
Rattus	TGCAGCTGGTGGCCCCCGACCTATGGCCCTGAGGGCCCTCCACACCAGGCCCTGGTTGGACCCCCCTCTGCCTGGGCCCTCCCTG	80
Cavia	TGCAGCAGGCTGGCCCCCGACCTATGGCCCTGAGGGCCCTCCACACCAGGCCCTGGTTGGACCCCCCTCTGCCTGGGCCCTCCCTG	80
Homo	TGCAGCAGGCTGGCCCCCGACCTATGGCCCTAGGGCCCTCCACACCAGGCCCTGGTTGGACCCCCCTCTGCCTGGGCCCTCCCTG	80
Mus	GACCACCCATGATGCTGCCACCAATGGCTCGGGCACCTGGACCACCCCTGGGTTCTATGGCTGCTCTGAGACCTCCCTG	160
Rattus	GACCACCCATGATGCTGCCACCAATGGCTCGGGCACCTGGACCACCCCTGGGTTCTATGGCTGCTCTGAGACCTCCCTG	160
Cavia	GACCACCCATGATGCTGCCACCAATGGCTCGGGCACCTGGACCACCCCTGGGTTCTATGGCTGCTCTGAGACCTCCCTG	160
Homo	GACCACCCATGATGCTGCCACCAATGGCTCGGGCACCTGGACCACCCCTGGGTTCTATGGCTGCTCTGAGACCTCCCTG	160

ENSMUSG00000036733 exon 7 (ORF 0)

Mus	GAAGAGCCAGCAGCTCCAAGAGAGCTAGGCCTAGGCCTTGGTTTGGGCCTGAAAGGACAAAGGAAGAGGCAGTAGTGGCCGC	80
Rattus	GAAGAGCCAGCAGCTCCAAGAGAGCTAGGCCTAGGCCTTGGTTTGGGCCTGAAAGGACAAAGGAAGAGGCAGTAGTGGCCGC	80
Cavia	GAAGAGCCAGCAGCACCAGAGAGCTGGGCCCTAGGCCTGGGCTTGGGCCTGAAAGGAAAGGAAGAGGCAGTAGTGGCCGC	80
Homo	GAAGAGCCAGCAGCACCAGAGAGCTGGGCCCTAGGCCTGGGCTTGGGCCTGAAAGGAAAGGAAGAGGCAGTAGTGGCCGC	80
Mus	AGCGGCTGGGCTGGAAGAAAGCTAGCGCAGCAGTGGCACTGGGGGCAGGAGGAGCCCAAGCTGGCCCTGCAGTCATTGGCC	160
Rattus	AGCGGCTGGGCTGGAAGAAAGCTAGCGCAGCAGTGGCACTGGGGGCAGGAGGAGCCCAAGCTGGCCCTGCAGTCATTGGCC	160
Cavia	AGCGGCTGGGCTGGAAGAAAGCTAGCGCAGCAGTGGCACTGGGGGCAGGAGGAGCCCAAGCTGGCCCTGCAGTCATTGGCC	160
Homo	AGCGGCTGGGCTGGAAGAAAGCTAGCGCAGCAGTGGCACTGGGGGCAGGAGGAGCCCAAGCTGGCCCTGCAGTCATTGGCC	160

ENSMUSG00000036733_intron_6



Mus Rattus Cavia Homo
GTAAGTGGAGACTG.....CTAAGTTAAAGGGTCCCCAGCCCGGT.....GGACCCGCAGTTCACITACATGAAGTCTTCTTCC 83
GTAAGTGGAGACTGACTACT.....ACTGTGGTTAAAGGTTT.....AAGTCTTTCTTCC 52
GTAAGTATGGGAGCTAAIT.....GCTGTGAGTAGGAAGC.....CTTCTGTTCTTCTTCT 57
GTGAGTGTGAAGAGGCAAGTAACGGTCAAGATGTGGGTGGAGGGGAGAGCCATGCATCGTGGCCCAATGGCTATGTGTGAGTTCGCTCTGTCTGCTGACTTTCTGTTCT 110

Mus Rattus Cavia Homo
CAAATTTGCTTCTGCAACTTTGTAACCCATTTCTTTTATTTCTT.....TGATGGGGGGGAAACCCGAAAAA.....CTT 154
CAAGTTTGTTCCTGTTCTTTGTAACCCGCTTTCTTTTATTTCTT.....TGATGATAAAGAAACAAAAACAAAAACACTT 128
CAAGTTTGTTCCTGTTCTTTGTAACCCGCTTTCTTTTATTTCTT.....TGATGATAAAGAAACAAAAACAAAAACACTT 127
CTACCTTCTTCACTCTGCTTTTGTCTCTCTCTTTCTTCTGCACTT.....TCTCTGG 167
..... 154

Mus Rattus Cavia Homo
GTTTTCTTTGCTCTTTGGACCAATAACTTACTATGTAGCTCAGGCTG.....GCTAGACCTTGTACTCCTCCTGCCTCTCAGCCTCCCAATGATGAGGCATGTGGACCATG 264
GGTTTTCTTTGCTCTTTGGACCAATAACTTACTATGTAGCTCAGGCTG.....GCTAGACCTTGTACTCCTCCTGCCTCTCAGCCTCCCAATGATGAGGCATGTGGACCATG 238
TGTGTTGTTATTTCTTTAATGAGCAATGGAGTTCAGTATCTCAAGCT.....TGGAGATAGGGAGTGTGCCACTGASCTATAAGCCGAGTGG 365
..... 165

Mus Rattus Cavia Homo
CGACCTTCTCCTGTGTGAAGAG...AGTCCAAAGAGAGACACCTACTGTGAATAGTTCCAT.....GTTTTCTG...TTTTG 340
CGACCTTCTCCTGTGTGAAGAG...AGTCCAAAGAGAGACACCTACTGTGAATAGTTCCAT.....ATGTTGCTG...TTTTCTTTGATTTGCCCTTTTTA 337
CTGATTTTCTTTTGAAGAGAA...TAGAGAGAGAGAAATGTGTGCTGGTGTATGTC.....TATTTCTATCTCTTTTCTTTGAGAGTCTGCTTATTT 462
ATCTGTTTCTCCTTTTGTGAAGAG...AGTACAGAGAGAAACA...TGTATTGGAATATTTCTCTTTTGTATTTGTTACTGATGTTCTTGTCTCTGCTGCTCTCT 270

Mus Rattus Cavia Homo
CTGTGTCATTCAACATCTCTTTGCTCCCTGCATTTCTCTGCCCAGCTACTGTAAC.....TCTTTGCTCAGCGTTGCTGGCCTCCAGACCTTGTCTGTG... 440
CTATGTCATTCAACAT...CTTTGCTCCCTGCATTTCTCTCTCCAGCTACTTACT.....TCTTTGCTCACTGTTGCTGGCCTCCAGGCCCTTGTCTCA... 434
CTGTTTTGTTTTTACC...ACTGCTCTCTGCATATGTTGAGGCTTTCTGCTTACTAGAGACCTCTTTCTTACCTGTTCTCTGGCT...TCACTGCA... 561
CTGTGTT...TCTCCTTCTCTGTGTTTCTGCTGGCTGGAGACTCTGCTTGGG...TCTGCTTGGGTGCTCTCTGGGCTCCAGGGCTTTCTTTGTTGG 564

Mus Rattus Cavia Homo
ACACAGTGGG...ATAGTAAAAAGCCAGTCTGGGAGCTGCCATCCC.....TAAACAGCCTTTCTTCCCCAGAG 508
ACACAGCAGAGGTAGTAAATGCAAGCCTGTGAGCTAGCCATCCC.....TACGCTTCCCCTTCCCCAGAG 504
TAGAGATAGATAAGATAAG...GCCATAGACTGTTCTTTTATACCCCTTTTTTAAAAAATTTTTTTTTTTTATTAGTACTTGTAGCAGGATATAATGACT 684
ATGGAATGGAGATGACAGTAAACCTCAGCCTGTGAGCGGGCCCC.....TCACTGGTCTGCTTACCCACAG 434

Mus Rattus Cavia Homo
.....TAAACAGCCTTTCTTCCCCAGAG 508
.....TACGCTTCCCCTTCCCCAGAG 504
.....TCACTGGTCTGCTTACCCACAG 727
.....TCACTGGTCTGCTTACCCACAG 434

ENSMUSG00000029512 intron 11

Description: Serine/threonine-protein kinase ULK1 (Ulk1)
 Intron number: 11
 Mouse chromosome: 5
 Upstream exon length: 51
 Downstream exon length: 89
 Mouse intron length: 289
 Intron alignment length: 460
 Total murinae branch length: 0.18766
 K_score: 0.08762
 Scaling factor: 0.48092

ENSMUSG00000029512 exon 11 (ORF 2)

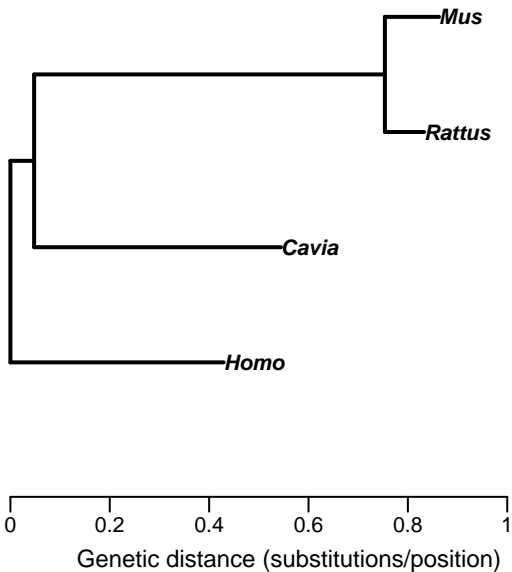
Mus	ATGAATTTTTTCCACCACCCCTTTCTTGGATGCCAGCACC	CCATCAAAGAAAT	51
Rattus	ATGAATTTTTTCCACCACCCCTTTCTTGGATGCCAGCACC	CCATCAAAGAAAT	51
Cavia	ATGAATTTTTTCCACCACCCCTTTCTTGGATGCCAGCACC	CCATCAAAGAAAT	51
Homo	ATGAATTTTTTCCACCACCCCTTTCTTGGATGCCAGCACC	CCATCAAAGAAAT	51

ENSMUSG00000029512 exon 12 (ORF 2)

Mus	CCCCACCTGTGCCTGTGCCCTCATATCCAAGCTCAGGGTCTGGCAGCAGCTCCAGCAGCAGCTCTGCCTCCCACCTGGC	80
Rattus	CCCCACCTGTGCCTGTGCCCTCATATCCAAGCTCAGGGTCTGGCAGCAGCTCCAGCAGCAGCTCTGCCTCCCACCTGGCA	80
Cavia	CCCCACCTGTGCCTGTGCCCTCATATCCAAGCTCAGGGTCTGGCAGCAGCTCCAGCAGCAGCTCTGCCTCCCACCTGGCG	80
Homo	CCCCACCTGTGCCTGTGCCCTCATATCCAAGCTCAGGGTCTGGCAGCAGCTCCAGCAGCAGCTCTGCCTCCCACCTGGCG	80

Mus	TCTCCACCG	89
Rattus	TCTCCACCG	89
Cavia	TCTCCACCG	89
Homo	TCTCCACCG	89

ENSMUSG00000029512_intron_11



ENSMUSG00000014158 intron 8

Description: Transient receptor potential cation channel subfamily V memb (Trpv4)
 Intron number: 8
 Mouse chromosome: 5
 Upstream exon length: 93
 Downstream exon length: 74
 Mouse intron length: 398
 Intron alignment length: 433
 Total murinae branch length: 0.27211
 K_score: 0.08782
 Scaling factor: 0.51597

ENSMUSG00000014158 exon 8 (ORF 0)

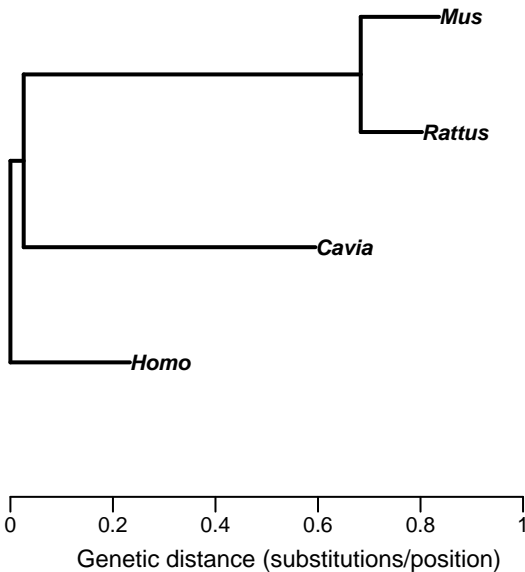
Mus	CCACCCTACCCTTACCCTGACCAAGTGGACTACCTGAGGCTGGCTGGCGAGGTCATCACGCTCTTCACAGGAGTCCCTGTT	80
Rattus	CCACCCTACCCTTACCCTTACCAAGTGGACTACCTGAGGCTGGCTGGCGAGGTCATCACGCTCTTCACAGGAGTCCCTGTT	80
Cavia	CCACCCTACCCTTACCCTGACCAAGTGGACTACCTGAGGCTGGCTGGCGAGGTCATCACGCTCTTCACAGGAGTCCCTGTT	80
Homo	CCACCCTACCCTTACCCTGACCAAGTGGACTACCTGAGGCTGGCTGGCGAGGTCATCACGCTCTTCACAGGAGTCCCTGTT	80

Mus	GTTCTTTACCAAGT	93
Rattus	GTTCTTTACCAAGT	93
Cavia	GTTCTTTACCAAGT	93
Homo	GTTCTTTACCAAGT	93

ENSMUSG00000014158 exon 9 (ORF 0)

Mus	ATCAAAGACTTGTTCAAGAAATGCCCTGGAGTGAATTCTCTCTTCTCGATGGCTCCTTCCAGTTACTCTA	74
Rattus	ATCAAAGACTTGTTCAAGAAATGCCCTGGAGTGAATTCTCTCTTCTCGATGGCTCCTTCCAGTTACTCTA	74
Cavia	ATCAAAGACTTGTTCAAGAAATGCCCTGGAGTGAATTCTCTCTTCTCGATGGCTCCTTCCAGTTACTCTA	74
Homo	ATCAAAGACTTGTTCAAGAAATGCCCTGGAGTGAATTCTCTCTTCTCGATGGCTCCTTCCAGTTACTCTA	74

ENSMUSG00000014158_intron_8



ENSMUSG00000037820 intron 12

Description: Protein-glutamine gamma-glutamyltransferase 2 (Tgm2)

Intron number: 12

Mouse chromosome: 2

Upstream exon length: 137

Downstream exon length: 151

Mouse intron length: 895

Intron alignment length: 734

Total murinae branch length: 0.15886

K_score: 0.08338

Scaling factor: 0.52074

ENSMUSG00000037820 exon 12 (ORF 0)

Mus	GTCCTGGCA	GA	AA	CCCAAGCA	AA	ACCGCAA	AACTGGTGGCT	GAGGTGT	CCCTGA	AAGAA	CCCACTTT	CGATCC	CCTGTAT	GA	80
Rattus	ATCCTGGG	GA	AGCC	CAAGCA	GA	ACCGCAA	AACTGGTGGCT	GAGGTGT	CCCTGA	AAGAA	CCCACTTT	CGATCC	CCTGTAT	GA	80
Cavia	GTCTTGGG	GA	AGCC	CAAGCA	GA	ACCGCAA	AACTGGTGGCT	GAGGTGT	CCCTGA	AAGAA	CCCACTTT	CGATCC	CCTGTAT	GA	80
Homo	ATCCTTGG	GA	AGCC	CAAGCA	GA	ACCGCAA	AACTGGTGGCT	GAGGTGT	CCCTGA	AAGAA	CCCACTTT	CGATCC	CCTGTAT	GA	80

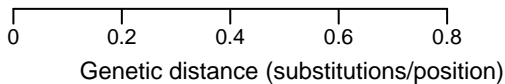
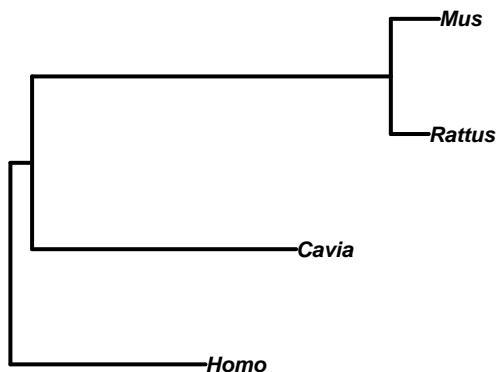
Mus	CTGCATCTT	CACTGT	GGAGGGGG	GCTGGCCT	GACCAA	GAGCAGA	AGTCTGT	GGAGG	137
Rattus	CTGTGTCTT	CACTGT	GGAGGGGG	GCTGGCCT	GACCAA	GAGCAGA	AGTCTGT	GGAGG	137
Cavia	TTGTATCTT	CACTGT	GGAGGGGG	GCTGGCCT	GACCAA	GAGCAGA	AGTCTGT	GGAGG	137
Homo	CTGCATCTT	CACTGT	GGAGGGGG	GCTGGCCT	GACCAA	GAGCAGA	AGTCTGT	GGAGG	137

ENSMUSG00000037820 exon 13 (ORF 1)

Mus	CTCAGACCC	G	GTGC	AGGG	CGATT	TGTCA	AGGC	ACGGGT	CGACCT	GTTCC	CGACT	GATATT	GGCCT	CCACA	AGCT	GG	80
Rattus	CTCAGACCC	T	GTGC	AGGG	CGATT	TGTCA	AGGC	ACGGGT	CGACCT	GTTCC	CGACT	GATATT	GGCCT	CCACA	AGCT	GG	80
Cavia	CTCAGACCC	CGT	GTGC	AGGG	CGATT	TGTCA	AGGC	ACGGGT	CGACCT	GTTCC	CGACT	GATATT	GGCCT	CCACA	AGCT	GG	80
Homo	CTCAGACCC	CGT	GTGC	AGGG	CGATT	TGTCA	AGGC	ACGGGT	CGACCT	GTTCC	CGACT	GATATT	GGCCT	CCACA	AGCT	GG	80

Mus	TGGTGA	ACTTCC	AGTGT	GACA	AGCT	GAAGT	CGGT	GAA	GGTT	ACCG	GAAT	GTAT	CAT	CGCC	CGCCT	AA	151
Rattus	TGGTGA	ACTTCC	AGTGT	GACA	AGCT	GAAGT	CGGT	GAA	GGTT	ACCG	GAAT	GTAT	CAT	CGCC	CGCCT	AA	151
Cavia	TGGTGA	ACTTCC	AGTGT	GACA	AGCT	GAAGT	CGGT	GAA	GGTT	ACCG	GAAT	GTAT	CAT	CGCC	CGCCT	AA	151
Homo	TGGTGA	ACTTCC	AGTGT	GACA	AGCT	GAAGT	CGGT	GAA	GGTT	ACCG	GAAT	GTAT	CAT	CGCC	CGCCT	AA	151

ENSMUSG00000037820_intron_12



Mus 94
Rattus 86
Cavia 105
Homo 110

Mus 178
Rattus 170
Cavia 209
Homo 216

Mus 269
Rattus 266
Cavia 267
Homo 313

Mus 339
Rattus 318
Cavia 371
Homo 384

Mus 365
Rattus 344
Cavia 481
Homo 410

Mus 441
Rattus 429
Cavia 579
Homo 421

Mus 528
Rattus 504
Cavia 688
Homo 442

Mus 638
Rattus 568
Cavia 745
Homo 499

Mus 700
Rattus 644
Cavia 825
Homo 545

Mus 718
Rattus 662
Cavia 935
Homo 556

Mus 790
Rattus 737
Cavia 1044
Homo 635

Mus 895
Rattus 842
Cavia 1132
Homo 723

Sequence alignment showing DNA base pairs (A, C, G, T) for Mus, Rattus, Cavia, and Homo across various genomic regions. The alignment is presented in a grid format with species names on the left and coordinates on the right.

ENSMUSG00000013921 intron 4

Description: CLIP-170-related protein (Clip3)

Intron number: 4

Mouse chromosome: 7

Upstream exon length: 162

Downstream exon length: 119

Mouse intron length: 403

Intron alignment length: 527

Total murinae branch length: 0.18591

K_score: 0.07984

Scaling factor: 0.52602

ENSMUSG00000013921 exon 4 (ORF 2)

Mus	GACCCTGCGGGCCGCTGTGCGTCTCTCACAGCAGCTGCTGGCGTAGGGCCAGATGTGACCCCTGCCAGCCGCTGGACCCAA	80
Rattus	GACCCTGCGGGCCGCTGTGCGTCTCTCACAGCAGCTGCTGGCGTAGGGCCAGATGTGACCCCTGCCAGCCGCTGGACCCAA	80
Cavia	GACCCTGCGGGCCGCTGTGCGTCTCTCACAGCAGCTGCTGGCGTAGGGCCAGATGTGACCCCTGCCAGCCGCTGGACCCAA	80
Homo	GACCCTGCGGGCCGCTGTGCGTCTCTCACAGCAGCTGCTGGCGTAGGGCCAGATGTGACCCCTGCCAGCCGCTGGACCCAA	80

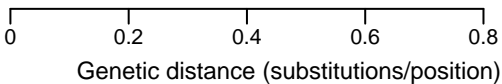
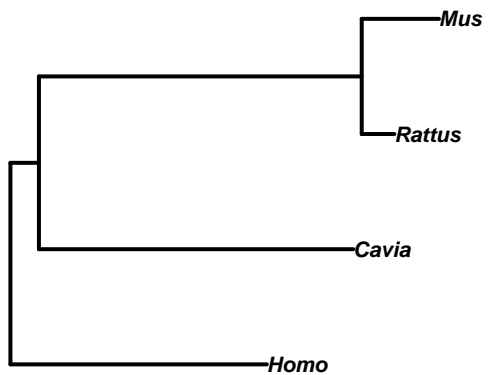
Mus	CATGAACGCCCTTCACTATGCGGCCTATTTTGTGATGTGCCAGACCTTGTTCGGTGTGCTGCTGAAGGGGGCGAGGCCCA	160
Rattus	CATGAACGCCCTTCACTATGCGGCCTATTTTGTGATGTGCCAGACCTTGTTCGGTGTGCTGCTGAAGGGGGCGAGGCCCA	160
Cavia	CATGAACGCCCTTCACTATGCGGCCTATTTTGTGATGTGCCAGACCTTGTTCGGTGTGCTGCTGAAGGGGGCGAGGCCCA	160
Homo	CATGAACGCCCTTCACTATGCGGCCTATTTTGTGATGTGCCAGACCTTGTTCGGTGTGCTGCTGAAGGGGGCGAGGCCCA	160

ENSMUSG00000013921 exon 5 (ORF 2)

Mus	TGGTGAACCTCCACCTGCAAGTACTTCAACCATGGCTGAGCTCTGCACATCGCTGCCTGAAATCTGTGCCTGGGGCC	80
Rattus	TGGTGAACCTCCACCTGCAAGTACTTCAACCATGGCTGAGCTCTGCACATCGCTGCCTGAAATCTGTGCCTGGGGCC	80
Cavia	TGGTGAACCTCCACCTGCAAGTACTTCAACCATGGCTGAGCTCTGCACATCGCTGCCTGAAATCTGTGCCTGGGGCC	80
Homo	TGGTGAACCTCCACCTGCAAGTACTTCAACCATGGCTGAGCTCTGCACATCGCTGCCTGAAATCTGTGCCTGGGGCC	80

Mus	AAATGTTTACTGGAGCATGGTGCCAACCCAGCACTGAGG	119
Rattus	AAATGTTTACTGGAGCATGGTGCCAACCCAGCACTGAGG	119
Cavia	AAATGTTTACTGGAGCATGGTGCCAACCCAGCACTGAGG	119
Homo	AAATGTTTACTGGAGCATGGTGCCAACCCAGCACTGAGG	119

ENSMUSG00000013921_intron_4



Mus
Rattus
Cavia
Homo
GTGAGGAGGCGGAGTCTCTCTGGAAAGGGGCTGGCTTAGATGAAGGGTGGACTTTC-----TTA60
GTGAGGAGGCGGAGCCTTGGTGGATGGGGAGGGGCTGGATGAGGGGTGGACTTTC-----TTT69
GTGAGGAGGAGTACTTCTCTGATGCAAGGGAGGACTTAGGGGAAGGGTGGGCACTGGGGTGGGGGCACGACCCAGGGCCTGTCTGAGCGAGATGGTGACAGACGCCA109
GTGAGGAGGAGAGCCCTGGCTGGAGGGGGCAAGGAGCTGGCTGAGGGACCCGAGC-----CCA61

Mus
Rattus
Cavia
Homo
TAGGGAAGGGTACCCAGGGTTTTGAGAGGCTGGGGCCACCATCCATCTGGTTAAAGGGGAAAAA-----CTCAAGATGAAA140
-----CGAGGAGGGGGAGGCTTTTGGACATCTGGGGCGACCATCCATCTGGTTAAAGGGGAAAAA-----CCACAGGAAA137
GGTGGCAAGGGAGGCTAGTGGCTGGGGCGGGGGGGGGGGGGCGACGACTGGGGGGGACTCTAGGCGAGGTTTTGGGAGGGAACCCCTTCTAGAGGCGGG219
GGTGAAGCCAGGCTGCGAGGGGAAGGAGAGGCTGATCTGAGGAGATAGCGGAGGTTGGAGC-----CTTGGAGGAGGG736

Mus
Rattus
Cavia
Homo
GGATAAAAGACTAGCCCTAAGGTTGAAGGGTCCAGGATTCAAAAGGAAACAAGGGATAGATAGACAT--GCACGGCTGGGATGCAGGTTCTGTTGGTTGTTG248
GGATAAAAGACTAGCCCTAAGTTGAAGGGTCCAGGATTCAAAAGGAAACAAGGGCTAGAGGGCATGCCATGCCAGAGGCTAGGGCGGCTGTTGGCC-----241
AGAGACTATGCTAACACCCCTGGCATCTGTGGGAGAGACTCACAAAGTGGGGCCAGCCT-----279
GGCTCAGGACTACACTCTAGC-----GAGGCTCGGGCTGCCAAGGGAAGGGGGCT-----191

Mus
Rattus
Cavia
Homo
GTGGGGGTAAGTGGTGTGGGGTCATAT-----ATGTGACAGAAGGGTAGGTTGGGCAAGATGTTTAGAGACTGGGAGCCCTGAGCAG-----332
-----AGGATATGATGATGGCTTATATACAGGATGGACAACAATGGATAGAAGGGCAGGTTGGGAAGATGCTTAGAGCCAGGAAACCGCC-----A-----331
-----GGCAATTTAATGATTTAGCCAGAC-----TAGAATAAAAA-----GGGGGGATTAATCACTGGGAGGGCTGGGGAGGTTTCTGGTACC367
-----CGAGGCGGGGGGGGGCTCTCCGTGGAGGCTTGGGAGCT-----233

Mus
Rattus
Cavia
Homo
GCAAGGGTGAAGCTCCATCCAGATGTGCCAT-----CACTCACTCTTACCG--TTCCCTCAGGTGCCACTTCCAG403
GCAAGGGTGAAGCTCCATCCAGATGTGCCAGG-----CACTCACTCTTACCG--TTCCCTCAGATGCCACTTCCAG406
GCAAGGGGAAAT-----GTAAGAGAGCTGTATTATTCCACTTGCTCACCTAGAACTGTGTCTTACCCTTCCAG443
GCAAGCTTAGAGATTGAGCCCGAGAGGTGGAGAGGGCTGGGGCTCCACAGGGGCTCACCGGAAACCCCTCTCTTGGCCACTTCCAG320

ENSMUSG00000032413 intron 11

Description: Ras GTPase-activating protein 2 (Rasa2)

Intron number: 11

Mouse chromosome: 9

Upstream exon length: 149

Downstream exon length: 115

Mouse intron length: 860

Intron alignment length: 1224

Total murinae branch length: 0.26616

K_score: 0.06252

Scaling factor: 0.53066

ENSMUSG00000032413 exon 11 (ORF 0)

Mus	CCAGTATCCGCCCTCAGCTGCTTATATTTTTGGGTGAAATATGTCAAGATCAAAAAGGATGCTGTTTTGCCCTTGTACGAACT	30
Rattus	CCAGTATCCGCCCTCAGCTGCTTATATTTTTGGGTGAAATATGTGAGATCCAGAAAGGATGCTGTTTTGCCCTTGTACGAACT	30
Cavia	CCATATCTGCCCTCAGCTGCTTACATTTTTGAGTGAATATGTGAGATAAAAATGATGCTGTTTTGCCCTTGTACGAACT	30
Homo	CCATATCTGCCCTCAGCTGCTTACATTTTTGAGTGAATATGTGAGATAAAAATGATGCTGTTTTGCCCTTGTACGAACT	30

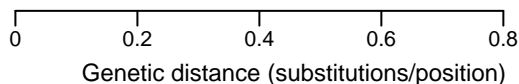
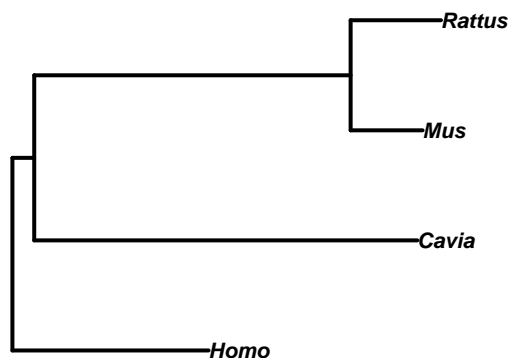
Mus	GTTGCTGCATCACAAATAAACTTGTCCCTTTTATCACTGCGGTGGCCGAGCTGGACTTGAAGGATACTCC	149
Rattus	GTTGCTGCATCACAAATAAGCTTGTCCCTTTTATCACTGCGGTGGCTGACCTGGACTTGAAGGATACTCA	149
Cavia	GTTGCTGCATCACAAATAAACTTGTCCCTTTTATCACTGCAAGTGGCTGAATTAGACTTGAAGGATACTCA	149
Homo	GCTGCTGCATCATGATAAACTTGTCCCTTTTGCACACTGCTGTGGCTGAATTAGACTTGAAGGATACTCA	149

ENSMUSG00000032413 exon 12 (ORF 1)

Mus	AGATGCCAACGCCAATATTTAGAGGAAACTCCCTGGCTACCCAATGTCTGACTGAGATGATGAAATAGTGGGAGGGCACT	30
Rattus	AGATGCCAACGCCAATATTTAGAGGAAACTCCCTGGCTACCCAATGTCTGACTGAGATGATGAAATAGTGGGAGGGCACT	30
Cavia	AGATGCCAACCAAAATTTTAGAGGAAATTCCTGGCTACCCGATGTCTGACTGAGATGATGAAAATAGTGGGAGGGCACT	30
Homo	AGATGCCAACCAAAATTTTAGAGGAAATTCCTGGCTACCCGATGTCTGACTGAGATGATGAAAATAGTGGGAGGGCACT	30

Mus	ACCTGAAAGTCAAGCTGAAAGCCCGTTCTAGATGAG	115
Rattus	ACCTGAAAGTCAACATTGAAAGCCCTGTTCTAGATGAG	115
Cavia	ACCTGAAAGTAAACATTAATAATCTATTCTAGATGAG	115
Homo	ACCTGAAAGTAAACATTAATAACCTATTCTTAGATGAG	115

ENSMUSG00000032413_intron_11



ENSMUSG00000021171 intron 20

Description: Extended synaptotagmin-2 (Esyt2)

Intron number: 20

Mouse chromosome: 12

Upstream exon length: 106

Downstream exon length: 50

Mouse intron length: 1170

Intron alignment length: 1641

Total murinae branch length: 0.21862

K_score: 0.05612

Scaling factor: 0.53278

ENSMUSG00000021171 exon 20 (ORF 1)

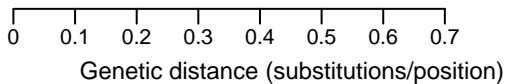
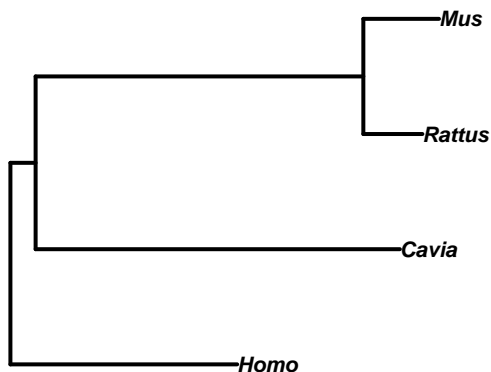
Mus	CTTCGACTTTCAGTGTTCGCTGCCTGAGGTGCAAAAGGAGAACATTTGGATGTGGCTGTGAAGAACAGTGGTGGCTTCTGT	30
Rattus	CTTCGACTTTCAGTGTTCGCTGCCTGAGGTGCAAGGAGAACACTGGATGTGGCTGTGAAGAACAGTGGC	30
Cavia	CTTTGATTTCAAGCTATCACTCCCTGAGGTGCAAGGAGAACGCTGGATGTGGCTGTGAAGAACAGTGGC	30
Homo	CTTTGATTTCAAGTGTTCGCTTACCAAGAAAGTGCAGAGGAGAACGCTCGACGTTGGCTGTGAAGAACAGTGGC	30

Mus	CCAAAGATAAAGGGCTTCTTGGCAAA	106
Rattus	CCAAAGATAAAGGGCTTCTTGGCAAA	106
Cavia	CCAAAGATAAAGGGCTTCTTGGCAAA	106
Homo	CCAAAGATAAAGGGCTTCTTGGCAAA	106

ENSMUSG00000021171 exon 21 (ORF 0)

Mus	GTGCTGGTTGTTCTGGCATCTGAAGAACTCGCCAAAGGCTGGACCCAGTG	50
Rattus	GTGCTGGTTGCTCTGGCATCTGAAGAACTCGCCAAAGGCTGGACCCAGTG	50
Cavia	GTGCTGGTTGGCTCTGGCATCTGAAGAAGCTCGCCAAAGGCTGGACCCAGTG	50
Homo	GTAATGGTTGCTCTGGCATCTGAAGAACTTGCCAAAGGCTGGACCCAGTG	50

ENSMUSG00000021171_intron_20



Mus Rattus Cavia Homo
G T G A T T T T T T T A A G T C C T T G T A T C C T A C A C A T T G T A G A A T T A A S T G C A C T T T A G A T C A T A G C T T A C A T A G T G G A A G G G A G G C T 86
G T G A T T G T T T T T A A G T C C T T G T A T C C T A C A C A T T G T A G A A T T A A S T G C A G T T T A G A T C A T A G C T T T A C A C A G T G G A A G G G A G G C T 85
G T A A G C A T C A A G A A A T C T C A C A C C T T A C C A C C T T G T A G A A T T A A S T G C A G C T G G A A G G T G C C 67
G T A A G T G C C A A C G A T G C T G A C C A G T T G C C A G T T T T G A A A T T G A A C A T T T A C T T G C A G T G C A G T G T T T A G A C C A T G T C T G T G T A A G T G A A G G G C G A C 105

Mus Rattus Cavia Homo
C A C T C T A A T T A A T T G T G C T T A T C A C A T T G T G G T A A G A C A T C A G T A C A T A G C T G T T T T C C T G A T 151
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Mus Rattus Cavia Homo
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G C T T A C T A T T G C T T A T T A C T C A T C G T A A A C A A A G C A A C T T A A G G T G A A G A A A C A T T G A T T C C T T T T T T T T T T T T G A A A T T T T A G A A A C T T C A A T A T T A C A T T G G 258
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T C A T T C G T A G T G T G A G T A T C A C A T T 218

Mus Rattus Cavia Homo
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Mus Rattus Cavia Homo
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T C T A C C T T T G C C G A T T T C A C A T T T C A T T T G C A T G T G A G T C T A T T A T T A G A A T C A G A T C A G T T C A G T T T G G G A G A A G A T T T G A G T C A C G G C A T 414

Mus Rattus Cavia Homo
C A C T T T G T C A A C A G C A A A G T G A A A A A T C T G T A T C A G T A G C C A T G A C A A A T A C T A A G A G A C A A A T G T A A A C A A G A G A G T T A A T T T A C C T C T T G A T T C A G A 567
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T G C C T C T G T C C A T . G T T C A C C A G A C C T T T C A G A A A G A T T C C A T G C A T C A G C A G G C C A T G T A A A C A A G A G A G T T T T T T T T T T C C C T C C T T C A G A 462
C A T T T G T A G T G T G 430

Mus Rattus Cavia Homo
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Mus Rattus Cavia Homo
A G A G C A G A G A T A T G C A G A G A G A C C A A G A G A A A G T A T A G C T T C C A G A G C A T C C C T A G I A G C C C C T A C C C A C C C A C A A T T T C C C A T C A C C G C A C A G T A T G A T 782
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C A T T T G T A G T G T G 430

Mus Rattus Cavia Homo
C T A C C T C A T A A T A A C T C A T T G A T A G G T C A A C C C T C T G G T T C T G T T G C C T G C A A A G C C C T C A G T T A G T T G G C A A C C A A G C T T T A A A C A T A G A C C T T T T A T A G T 892
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Mus Rattus Cavia Homo
C A C T T C A T A T C T A A A C C A C A C A T C C C A T T A G T A C A T A T T T G T A G T A T C T A T A G A T C T T T A T G T T T T C A T A A T A A T T A A C T A T T A G A T A C A A G A G A 1001
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Mus Rattus Cavia Homo
A T C T C T T G G A T T A C T C A G C T A T C T A A A G G T T A A A A T G A T T T T A A A A A T G A G A A C C T C A A A A C A T 1067
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Mus Rattus Cavia Homo
G A G A T T T C A T A T T G T T A A G A A A T T A G A G A G T A G G A A G G A G T G A T C A T G A T A A A C G A T T T 1133
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Mus Rattus Cavia Homo
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Mus Rattus Cavia Homo
G A G T T G C T G G G A C C A A G G T G C G T G T C A G C A C G C C A G A T A A A T T T G T T T A C T T T T A A T A G A G A C A A G G T T T C A C T A T C T T G C C A G G C T G G T C T C A A A C T C T T G G G C T T 930

Mus Rattus Cavia Homo
C C C A G A A T T T T C A C A G A C C T T C T T T A A T C C A C A G 1170
C T C A G A G T C C A C A G T G C C T C T T C T A C C C A G 1168
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ENSMUSG00000039263 intron 9

Description: Probable aminopeptidase NPEPL1 (Npepl1)

Intron number: 9

Mouse chromosome: 2

Upstream exon length: 124

Downstream exon length: 177

Mouse intron length: 280

Intron alignment length: 388

Total murinae branch length: 0.26144

K_score: 0.04856

Scaling factor: 0.53744

ENSMUSG00000039263 exon 9 (ORF 1)

Mus	GACCGTAGAGATCAACAACACGGATGCTGAGGGCCAGGGCTGGTGGTGGCAGACGGGGGTGTCTTATGGCTTGCAAAGACCTGG	80
Rattus	GACCGTAGAGATCAACAACACGGATGCTGAGGGCCAGGGCTGGTGGTGGCAGACGGGGGTGTCTTATGGCTTGCAAAGACCTGG	80
Cavia	GACCTGTGGAAATCAACAACACAGATGCTGAGGGCCAGGGCTGGTGGTGGCAGATGGCTGTGCTTATGCTTGAAGACCTGG	80
Homo	GACGGTGGAAATCAACAACACGGATGCTGAGGGCCAGGGCTGGTGGTGGCAGATGGCTGTGCTTATGCTTGAAGACCTGG	80

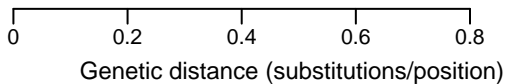
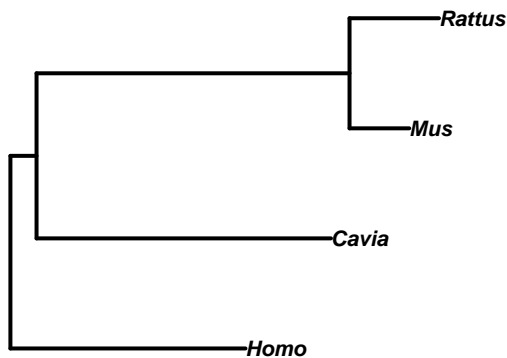
Mus	GGGCTGACATCATCGTGGACATGGCCACCCTGACAGGGGCCACAA	124
Rattus	GTGCTGACATCATCTGTGGACATGGCCACCCTGACAGGGGCCACAG	124
Cavia	CGGCTGACATCATCTGTGGACATGGCCACCCTGACAGGGGCCACAG	124
Homo	GGGCTGACATCATCTGTGGACATGGCCACCCTGACAGGGGGTTCAG	124

ENSMUSG00000039263 exon 10 (ORF 0)

Mus	GGCATTGCCACAGGGAAATACCATGCAGCCGTGCTCACCAACAGCGCCGAGTGGGAGGCGGCCTGCGTGAAGGCTGGCC	80
Rattus	GGCATTGCCACAGGGAAATACCATGCAGCCGTGCTCACCAACAGCGCCGAGTGGGAGGCGGCCTGCGTGAAGGCTGGCC	80
Cavia	GGCATTGCCACAGGGAAATACCATGCAGCCGTGCGGTGCTCACCAACAGCGCCGAGTGGGAGGCGTGCCTGTGTGAAGGCGGGCA	80
Homo	GGCATTGCCACAGGGAAATACCATGCAGCCGTGCGGTGCTCACCAACAGCGCTTGAAGTGGGAGGCGCCTGTGTGAAGGCGGGCA	80

Mus	GAAAGTGCGGGGACCTGCTCCACCCGCTAGTCTACTGCCCTGAGCTGCACCTTCAGCGAATCACCTCGGCTGTGGCTGACA	160
Rattus	GAAAGTGCGGGGACCTGCTCCACCCGCTGGTCTACTGCCCTGAGCTGCACCTTCAGCGAATCACCTCAGCTGTGGCTGACA	160
Cavia	GGAAGTGCGGGGACCTGCTCCACCCCTGGTCTACTGCCCTGAGCTGCACCTTCAGCGAATCACCTCAGCTGTGGCTGACA	160
Homo	GAAAGTGCGGGGACCTGCTCCACCCGCTGGTCTACTGCCCTGAGCTGCACCTTCAGCGAATCACCTCAGCTGTGGCGGACA	160

ENSMUSG00000039263_intron_9



Mus GTGAGTA...CCACACTTCACCTCTGGCTGCAGCTCC...CCAGAACCTGAACCC... 51
Rattus GTGAGTA...CCACACTTCACCGCTGGCTGCAGCTG...CCCTCCGCAAGACCC... 50
Cavia GTAGGG...CCTGAGTTAGCTCCGGCCGAGCTCC...CTTGACTTGGCTGTGTGGTCAGCCCGGGGGC...GGATTCATTAGTTCC 96
Homo GTGAGTCTCTCCCTGGATCGAGGCTTTAGCTCTAGTCCGAGGGAAOCCCA...CCGACGCTTGAAGCTAAAGGTGGGAAGCAGGCGCTGGGGCTGGCTCAAGAAATTTT 110

Mus -----TCGTTGGCAGGTGAACATCTGGCGCTC-----TCATTCCGGAGGAAGGTCGGTTCCCTCCTCCGCTTGGAGCCGA 123
Rattus -----CTGTTGGCAGGTGAGGATGAGGATG-----TCATTCTGGAGGTAAGGAGGCGCTCCGCTGCTTGGAGCCGA 121
Cavia AITAA...CTGGCAAGAGGAGGAGGAGCTGTGGTCTGGCTC-----TCGAGGAGCCCATGCTGGAGTG...CCGGAAACCGCTCCTCTGTGCTTATG 155
Homo AITAA...CTGGCAAGAGGAGGAGGAGCTGCCGTGAAGCTTGGTGTGGCAGTACCGAGCCCATGCTGGAGTG...CCGGAAACCGCTCCTCTGTGCTTATG 218

Mus ACCCATGCCCGGCACTTGTCTGCAAGCCTGC-----TCCTTTCCGGCTCTTCCCTCTCCCTGCTGTATTTCCTGTCTGCCGAGTGTCTGCTTGGTCCAGCT 225
Rattus ACCCATGCCCTGCCCACTTGT-----TCCTTTCCGGCTCTTCCCTCTCCCTGCTGTATTTCCTGTCTGCCGAGTGTCTGCTTGGTCCAGCT 193
Cavia -CGTGTTCCCTTCCGTAGTTTCTTCTTTCTTGGAACTTGATGCTGACGGCTCTCGGTTGGCT-----TATTTCCTCATCGCCCATCTTCCCATTTTGTCTCCCA 257
Homo GCGATGCTCCTTCTGCTGTGTTTCTTTT-----TCTCAAACCGTCTCTTCTGGCTGCCCTTATTTCTCTGTCTGCTCCCGTCCCTCTT-TTTGGCTTGGGTG 322

Mus TCGTTTCTCTGCTGTCTTCCCTGTACGGTTGCTTCCCTTGTGTCTTT...TGCCTAG 280
Rattus CGGTTTCTCTGCACTTCTCTCAATGGTGGCTTCCCTTGTGTCCCT...TGCCTAG 248
Cavia TGTGTTCTTGGCTTCCGACTGGAT...CCATGGCTTGGCTGGCCAGGCCCAAG 311
Homo TTTTCTCTCTGCCCTCCCGAGCA...AGGCTTCCGCGCTTCTGCGCCAG 373

ENSMUSG00000003759 intron 9

Description: SH3KBP1-binding protein 1

Intron number: 9

Mouse chromosome: 7

Upstream exon length: 191

Downstream exon length: 116

Mouse intron length: 1088

Intron alignment length: 1620

Total murinae branch length: 0.14486

K_score: 0.08771

Scaling factor: 0.53832

ENSMUSG00000003759 exon 9 (ORF 1)

Mus	TTCTCCAGCCCGCGCCCTGGA	CTGGCCATCGAGCGCCCTGGCTCTTGGGGCTCGGGTGGCTGGGGTCTCCGGGTGAGCA	80
Rattus	TTCTCCAGCCCGCGCCCTGGA	CTGGCCATCGAGCGCCCTGGCTCTTGGGGCTCGGGTGGCTGGGGTCTCCGGGTGAGCA	80
Cavia	TTTTCAGCCCGCGCCCTGGA	CTGGCCATCGAGCGCCCTGGCTCTTACAGCCCGGGTGGCTGGGGTCTCCGGGTGAGCA	80
Homo	TTTTCAGCCCGCGCCCTGGA	CTGGCCATCGAGCGCCCTGGCTCTTACAGCCCGGGTGGCTGGGGTCTCCGGGTGAGCA	80

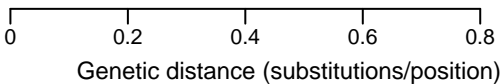
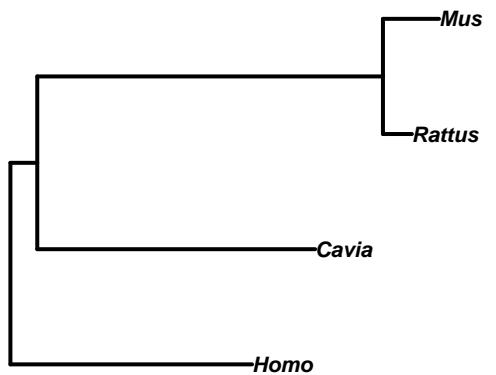
Mus	TGACAAGATGGTGGCTGCAGCT	ACTGGCAGCGAGATCCTTCTGTGGGGCTACAGGCACAAGGTGGTGGCTCTGAGATAG	160
Rattus	TGACAAGATGGTGGCTGCAGCT	ACTGGCAGCGAGATCCTTCTGTGGGGCTACAGGCACAAGGTGGTGGCTCTGAGATAG	160
Cavia	TGACAAGATGGTGGCTGCAGCT	ACTGGCAGCGAGATCCTTCTGTGGGGCTACAGGCACAAGGTGGTGGCTCTGAGATAG	160
Homo	TGACAAGATGGTGGCTGCAGCT	ACTGGCAGCGAGATCCTTCTGTGGGGCTACAGGCACAAGGTGGTGGCTCTGAGATAG	160

ENSMUSG00000003759 exon 10 (ORF 2)

Mus	GTGTCTTCCA	CTGGGTGTGCCAGTGGAGGCCTTGTCTTTGTTGGGAATCAGCTCATTGCCACAAGTACACAGGGCGC	80
Rattus	GTGTCTTCCA	CTGGGTGTGCCAGTGGAGGCCTTGTCTTTGTTGGGAATCAGCTCATTGCCACAAGTACACAGGGCGC	80
Cavia	GAGTCTTCCAT	CTAGGGTGCCTGTGGAGGCTTTGTCTTCTGTTGGGAATCAGCTCATTGCCACAAGTACACAGGGCGC	80
Homo	GAGTCTTCCAT	CTAGGGTGCCTGTGGAGGCTTTGTCTTCTGTTGGGAATCAGCTCATTGCCACAAGTACACAGGGCGC	80

Mus	ATCGGTGTCTGGAACGCTGT	GACCAAGCACTGGCAG	116
Rattus	ATCGGTGTCTGGAACGCTGT	GACCAAGCACTGGCAG	116
Cavia	ATTGGAGTGTGSAATGCTGT	CACCAAGCACTGGCAG	116
Homo	ATCGGGTGTGTGSAATGCTGT	CACCAAGCACTGGCAG	116

ENSMUSG00000003759_intron_9



ENSMUSG00000028532 intron 15

Description: VWFA and cache domain-containing protein 1 Precursor (Cachd1)

Intron number: 15

Mouse chromosome: 4

Upstream exon length: 182

Downstream exon length: 111

Mouse intron length: 1385

Intron alignment length: 1934

Total murinae branch length: 0.19311

K_score: 0.06399

Scaling factor: 0.54129

ENSMUSG00000028532 exon 15 (ORF 0)

Mus	TGGCGACCAGCCACGTCACAGATGAATGGATGACACAAAATGGAAATGAGCAGCCTGAACACCTACATTGTCCGCCGTTAC	80
Rattus	TGGCGACCAGCCACGTCACAGATGAATGGATGACACAAAATGGAAATGAGCAGCCTGAACACCTACATTGTCCGCCGTTAC	80
Cavia	TGGCGACCAGCCACGTCACAGATGAATGGATGACACAAAATGGAAATGAGCAGCCTGAACACCTACATTGTCCGCCGTTAC	80
Homo	TGGCTTACCAAGCCACGTCACAGATGAATGGATGACACAAAATGGAAATGAGTAGCCTGAACACTTACATTGTCCGCCGTTAC	80

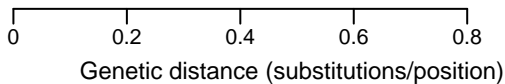
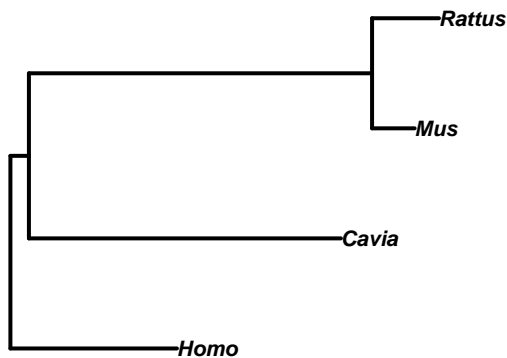
Mus	ATAGCAACACCCAAATGGCGTCCTCAGAATTTATCCTGTTCCCTTATGGACAAAGCATTGATCCCAGTGGAGACAGTG	160
Rattus	ATAGCAACACCCAAATGGCGTCCTCAGAATTTATCCTGTTCCCTTATGGACAAAGCATTGATCCCAGTGGAGACAGTG	160
Cavia	ATAGCAACACCCAAATGGCGTCCTCAGAATTTATCCTGTTCCCTTATGGACAAAGCATTGATCCCAGTGGAGACAGTG	160
Homo	ATAGCAACACCCAAATGGCGTCCTCAGAATTTATCCTGTTCCCTCATGGACAAAGCATTGATCCCAGTGGAGACAGT	160

ENSMUSG00000028532 exon 16 (ORF 1)

Mus	GTATCTTCATGCAGTAGCCAATCCAGGGCTGATTTCTTGACGGGCCCTTACCTGGATGTTGGAGGAGCTGGCTATGTC	80
Rattus	GTATCTTCATGCAGTAGCCAATCCAGGGCTGATTTCTTGACGGGCCCTTACCTGGATGTTGGAGGAGCTGGCTATGTC	80
Cavia	GTATCTTCATGCAGTAGCCAATCCAGGGCTGATTTCTTGACGGGCCCTTACCTGGATGTTGGAGGAGCTGGCTATGTC	80
Homo	GTATCTTCATGCAGTAGCTTAATCCAGGGTTGATTTCTTGACTGGTCTTACTTAGATGTTGGAGGAGCTGGTTATGTT	80

Mus	TGACAATCAGCCACACAATTCACCTCATCCAG	111
Rattus	TGACAATCAGCCACACAATTCACCTCATCCAG	111
Cavia	TGACCATCAGCCACACAATTCACCTCATCCAG	111
Homo	TGACAATCAGTTACACAATTCATTCATCCAG	111

ENSMUSG00000028532_intron_15



ENSMUSG00000024911 intron 9

Description: Acidic fibroblast growth factor intracellular-binding protei (Fibp)
 Intron number: 9
 Mouse chromosome: 19
 Upstream exon length: 98
 Downstream exon length: 70
 Mouse intron length: 493
 Intron alignment length: 626
 Total murinae branch length: 0.30319
 K_score: 0.01867
 Scaling factor: 0.54739

ENSMUSG00000024911 exon 9 (ORF 0)

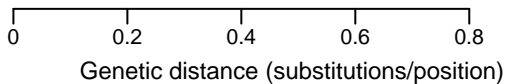
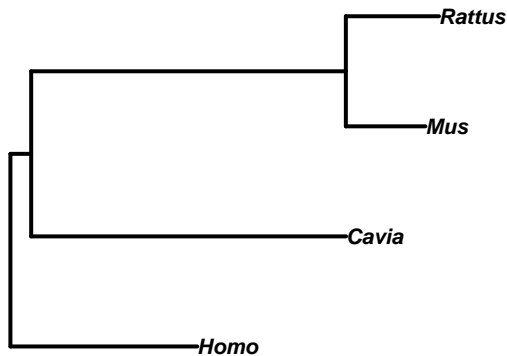
Mus	TTTGTGGAACCCCTGCCCGCTCTGACCACTGGCCACTGAGTGATGTGGGGCTCTTCCTCAGCCAGTATTTCAGCGTCAAGTCCA	80
Rattus	TTTGTGGAACCCCTGCCCGCTCTGACCACTGGCCACTGAGTGATGTGAGGGCTCTTCCTCAATCAGTATTTCAGCGTCTGTCCA	80
Cavia	TTTGTGGAACCCCTGCCCGCTCGACCACTGGCCACTGGCTGATGTGGGGCTCTTCCTGAATCAGTATTTCAGCACTGTCCA	80
Homo	TTTGTGGAACCCCTGCCCGCTCGACCACTGGCCACTCAGCGAGTGTGGGGCTCTTCCTGAATCAGTATTTCAGCGTCTGTCCA	80

Mus	CTCCCTGGATGGCTTCCG	98
Rattus	CTCCCTGGATGGCTTCCG	98
Cavia	CTCCCTGGATGGCTTCCG	98
Homo	CTCCCTCGATGGCTTCCG	98

ENSMUSG00000024911 exon 10 (ORF 1)

Mus	GCACCAGGCCACTCTGGGACCCTACATGGGCACCCTCCGTGGCTGCCTTCTGCGCCTCTATCATGATTAA	70
Rattus	GCACCAGGCCCTCTGGGACCCTACATGGGCACCCTCCGTGGCTGCCTTCTGCGCCTTATCATGATTAA	70
Cavia	GCACCAGGCCCTCTGGGACCCTACATGGGCACCCTCCGTGGCTGCCTCTGCGCCTCTATCATGATTAA	70
Homo	ACACCAGGCCCTCTGGGACCCTACATGGGCACCCTCCGTGGCTGCCTCTGCGCCTGTATCATGATTGA	70

ENSMUSG00000024911_intron_9



Mus GTGAGAGGTGCCAGGCCTGCTGGCTAACTT... CCGTATGCTCCATAGACTCAGGCTTCTCTGTGAAGTCCCTGTGGGTGC 81
Rattus GTGAGAGGTGCCAGGCCTGCTGGCCAGCTT... CCGTATGCTCCATAGACTCAGGCTTCCCTGTTGAAGCACCCTGTAGGTAG 80
Cavia GTGAGAGACTCCAGTCTCCGACCTTCTG... CCGTATGCTCCATAGACTCAGGCTTCCCTGTTGAAGCACCCTGTAGGTAG 78
Homo GTGAGAGAGC-CGTTGCTCTCTGTGCAAGGTTGGCTTTGCCCCAGCCTGCCACCTGCCAGGACCTGGGCTGGTCCAGACTTCAGGTTCCGCAATCTGCTAACCCTGGGGTGG 109

Mus AAGCTT... CCGGCTCTCCCTTCTTGTGACCTTGGGCAAGTTTCTTAAACCTTCTCTGTGCCCTTAGCTCTCTTAAATGTAAGTGA 161
Rattus AAGTCT... CCGGCTCTCCCTTCTTGTGACCTTGGGCAAGTTT... ACTCTGTGCCCTTAGCTCTCTTAAATGTAAGTGA 151
Cavia AAGTTTAACTTCAAACACTTAAATGTTGTGACCTTGGGCAAGTTTACTTGAATCTCTGATGCCCTGTTTCTGATGTAAACTGG 157
Homo GACCAAAGTCTCTGGACCAAAGCTCTGGCTCTCCCTCTTAAAGCTTGTGTGATTTGGGGCAGGTTTCTTAACTCTCATGCCCTGAGTTTCTCATGTAAACTAGGG 216

Mus CTAAAGCTAGAAGACTATAAGGTTTATGAAACT... AAAAGTCCCTCAGATCGGCTCCAGCA 224
Rattus ATACAGCGAAGACTGCTAAGACTTATGAGACT... AAAAGTCCCTCAGATCGGCTCCAGCA 214
Cavia GTAATAATTAAGAAATATCGTGAAGATTTATGAGGCTGGGCTGGGATTTAGCTTAGCGGCATAAGTGCCTGCCCTTGAAGGAGGAGTCTGAGTTCAATCCGGGTTAG 277
Homo TTCAATCATGAGAAGAAATGTAAAGATTTCTAAGG... 253

Mus TGGGTGGAGAGCAGGGAGAAGGAAGCCGGGCAAAATGGCTCAAAGTTTGTATTCACAGCAATCGGAAGCTGGGACATGAGGATGGCCGTGTTTTCCAGGCCAGCTTGAG 334
Rattus GGGGTGGAGCAGAGAGAGAAGGAGCTGGGCAATAATGGCTCAAAGTTTGTATTCACAGCAATCGGAAGCTGGGACATGAGGATGGCCGTGTTTTCCAGGCCAGCTTGAG 318
Cavia ATTAAGAGGARAAGACCAAAAAT... AAAAACAACAATAAAAATAAAAAAATTTATGAGGGCTGATGGG 352
Homo GCAAAAAGAAAGAAAGCTGTAAGAA... 276

Mus CCA... CAGTGTGAAAGCCCTGTCTCAAAAAAACAATTCGAAAAAATAAAAAGGAGGGGCTGTCTGAGGAAGAAAGTGTAGAAA 421
Rattus CCA... CAGTGTGAAAGCCCTGTCTCAAAAAAACAATTCGAAAAAATAAAAAGGAGGGGCTGTCTGAGGAAGAAAGTGTAGAAA 463
Cavia CTAGGGATGTGCAACACCTGTCTGGCTTGTGAAAGCCCTGACTTGAGCAACCAGCCACAGGGAAAAAGACCTGAGGAGGACTGACTGAGCTAATTTATAGAAA 462
Homo CCA... CAGTGTGAAAGCCCTGTCTCAAAAAAACAATTCGAAAAAACAATTCGAAAAAATAAAAAGGAGGGGCTGTCTGAGGAAGAAAGTGTAGAAA 318

Mus ACACCTGAGCGG... TGGTGTGGCAGGCATGGCGTGAATGGACATCAGCTCTCACGGTATCTTCTTCAITGCAG 493
Rattus GCACTCA... TGGTGTATTTGGGCATGGCAACAGTGGACATCAGCTATCACTCTTGTCTATTTGTTGCAG 433
Cavia GCACTCAGCAGTGTCTGGCTGTAGAGCACGG... TCACTGTGCTATTTCCATTCCAG 517
Homo AC... TCACTGTGCACTGTCTCACTCTT... CAG 348

ENSMUSG00000038387 intron 4

Description: Ras-related protein R-Ras Precursor (Rras)

Intron number: 4

Mouse chromosome: 7

Upstream exon length: 109

Downstream exon length: 119

Mouse intron length: 488

Intron alignment length: 1140

Total murinae branch length: 0.14869

K_score: 0.07154

Scaling factor: 0.55008

ENSMUSG00000038387 exon 4 (ORF 1)

Mus	TTTCAATGAGGTCGGCAAAGCTCTTTCACACAGATCCTCAGAGTCAAGGACCGGGATGATTTCCCCATTGTGTGGTTGGGA	80
Rattus	TTTCAATGAGGTAAGCAAAGCTCTTTCACACAGATCCTCAGAGTCAAGGACCGGGATGATTTCCCCATTGTGTGGTTGGGA	80
Cavia	CTTCAAACGAGGTGAGCAAAGCTCTTTCACACAGATCCTCAGAGTCAAGGACCGGGATGATTTCCCCATTGTGTGGTTGGGA	80
Homo	TTTCAAACGAGGTCGGCAAAGCTCTTTCACACAGATTTCTGGCGGTCAAGGACCGGAGAGATTTCCCCGTTGTGTGGTTGGGA	80

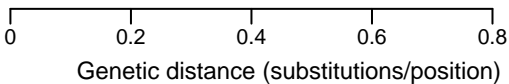
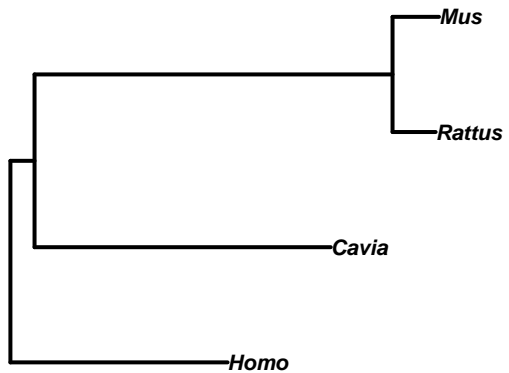
Mus	ACAAGGCAGATCTGGAGAACACAGCGCCAG	109
Rattus	ACAAGGCAGATCTGGAGAACACAGCGCCAG	109
Cavia	ACAAGGCAGATCTGGAGAACACAGCGCCAG	109
Homo	ACAAGGCAGATCTGGAGTTCACAGCGCCAG	109

ENSMUSG00000038387 exon 5 (ORF 0)

Mus	GTCCTCCGGTCTGAAGCCTCCTCTTTTCAGTGCTTCCCACCAATGACTTACTTTGAGGCCCTCAGCCAAACTGCGTCTGAA	80
Rattus	GTCCTTCGATCAGAGCCTCCTCTTTTAGTGTCTCCCACCAATGACTTACTTTGAGGCCCTCAGCCAAACTGCGTCTAAA	80
Cavia	GTCCCCTCGATCTGAAGCCTCAGAACTTTGGGGCTCCCACCAATGTGGCTTACTTTGAGGCCCTTGCCAAACTGAGGCTCAA	80
Homo	GTCCCCTCGATCAGAAAGCCTCTGCCTTCGGGGCTCCCACCAATCGTGGCTTACTTTGAGGCCCTGAGCCAAACTGCGTCTCAA	80

Mus	TGTCGATGAGGCATTTGAGCAGCTGGTGCCCGCTGTCC	119
Rattus	TGTCGATGAGGCATTTGAGCAGCTGGTGCCGACTGTCC	119
Cavia	CGTGGACGAGGCTTTGAGCAGCTGGTGCCGGCTGTCC	119
Homo	CGTGGACGAGGCTTTTGGAGCAGCTGGTGCCGGCTGTCC	119

ENSMUSG00000038387_intron_4



Mus Rattus Cavia Homo
GTTTGAATGCCCCCTCCCTGGTCAACCCCATTTGGACCTAGGAAGCTCTCTCAGGTACCATCTCCCTAC.....CTGGATCCCTGGTCCCTCT 91
GTTTGGATGCCCCCTCCCTGATCA.....CCCATTAGGACCGAGGAAGCTCTCTCAGG.....GACTGTCTCCTAC.....TCTGGATCACTGGTCTCTCT 89
GTTTGGGCTGCCCTCTTTCTGGGGA.....CCCATCTCACTCTGGGAGGCTCTTCAGGCA.....CAAGCTGTGGCCATCAGGATCCTCTCTGTTCTCTAGGGGCTCC 56
GTTTGGGCACTGCCCTCTTTCTGGGGA.....CCCATCTCACTCTGGGAGGCTCTTCAGGCA.....CAAGCTGTGGCCATCAGGATCCTCTCTGTTCTCTAGGGGCTCC 109

Mus Rattus Cavia Homo
ATTGTCAACAACCTTTGACTTAAAGATGACCCCCCAAGAGGAATGCC.....CATCACTGAGCCACACCCCTGGG..... 161
ATGTGACAGACTTTGACTTAAAGATGACCCCCCAAGTAGAATGAG.....CATTGTCTGAGCCACAGCGGATG..... 157
AACAGCAACCCGGCTGCCAGGCTAGCCCACTTT.....CTTGTCTGAACCTGACATCCGCTGTGTG..... 119
ATGTGACACAGGCTCAAGCTAGATGGGTACCCCAAACTGCACTTTCAAGGTCGCCCG.....CATCACGAGAGAGGGCTTAGGATGCAAGTGTCTCAGGAGAGGGCTGTGG 219

Mus Rattus Cavia Homo
..... 161
..... 157
..... 119
ACGGAACAAAGGACATTTACCCCCCGTCCGCCAGCTCTCTTTGCCCTTCTCGCATTCCTCCCTTCCAGCCAACTCCCAACGAGCCCAACGACCTCCCTCTCATGGC 329

Mus Rattus Cavia Homo
.....CATCACTG.....AGGAT 175
.....CATCACTG.....AGGAT 171
CGGCCCCCTCCATGGCTCCCAAGTTCCTCCCAAGTGCCAGATGCCCGCACAGTTGCCCCCTCCTTTCCCTGCTCCATCACTTCCGCCA.....ACGAT 429

Mus Rattus Cavia Homo
TCTAACAGAGAGCCCTAGCACTAGCCCACTCCTTGGCCCTTATAGTAATCCCTTGATACTGG.....TTCCCTGTCTTAAACAAG.....AACAGC 253
TCTAGGCAGAGACCCAGCACTAGCCCACTCCTTGGCCCTTATAGTAATCCCTTGATACTGGTCCCTACTTGTAGTATATGTTCCCTGTCTTAAACAAG.....AACAGC 275
TCTACACAGAACTC.....ATCTTTAGCCGAATCTT.....CTTGGGATTTCCAGCTTCAAGGGCT.....ACACTTGGCTCTGGCAAGACCAACATTC 254
TCTACACAGAACTC.....ATCTTTAGCCGAAGCTT.....CTTGGGATTTCCAGGCTTTGGGG.....TCTGGCTGCTCTGGGG.....AACACC 510

Mus Rattus Cavia Homo
CTTACTTCTTCCCTGCCCTGCTTCCAGTTAGCTAAAAACAC.....CTTCATAATCTTCCGCA..... 320
CTTACTTCTTCCCTGCCCTGCTTCCAGTTAGCTAAAAACAC.....CTTCATAATCTTCCGCA..... 332
CTTACTTCTTCCCTGCCCTGCTTCCAGTTAGCTAAAAACAC.....CTTCATAATCTTCCGCA.....GTAAAGCATGGTGGTGCATGCCAGCAATCCAGCAA 348
CTGACTTCCCTGCTGCTTCCAGTTAGCTAAAAACAC.....CTTCATAATCTTCCGCA..... 582

Mus Rattus Cavia Homo
.....CATCTCACTGATATCACTTCAACCC.....TCCA 349
.....CATCTGGGCTGAT.....CC 352
TCCCAGCATTCCAGGGAGCTGAGGCAGGAGGGTCAAAATGAAGCCCACTGGGGCAAATTAGTGACTTAGGGAGATCC.....GTCTTAAATAAATTTTGTGCTGT 458
.....CCCTTACTTAAAGACAACAAGCCCTTCC 613

Mus Rattus Cavia Homo
GTAGCCTCCTCTGGGGCTCTTC..... 371
GATCTCCTCTTGGGCTCTTC..... 374
AAATGACTTCAATAATTTTGTGTTTGTGTTTAACAAAGAGCTGAGGATATAGCTTAGTGTAAAAACCCCTGGCTTCCATCCCCATTACAACATAAAACATTTCCCTGA 568
CATCTCCCTGCAATAATCTCTC..... 635

Mus Rattus Cavia Homo
.....TAAACTTTCTATCTTGAAGCTTCTTCCAGT..... 401
.....TAAACTTTCTATCTTGAAGCTTCTTCCAGT..... 404
TTTTGTTTGTGTTTGGGGAGTAGTTTGAACAAGGCTTGTGTGTAACCTTAGGCTGGCCCTCAAACCTGGGAAAAATCTCTGGTGAAGGCTCTGAGCTGGGATCC 678
.....AGGAGCTTCTCTCTTGGAGTCTCACAAGT..... 665

Mus Rattus Cavia Homo
.....TATACACTGAGCACACCTTGGGGGCTTTGAGCATCTCCTCTCTCCGAGGCTCC..... 459
.....TATACACTGAGCACACCTTGGGGGCTTTGAGCATCTCCTCTCTCCGAGGCTCC..... 459
TGATTCCTTATTTCTATGATGTTAACTCCACGATGCCATAAGAACTTTGCCCTGGAGCTCCCAAGGCTCTAAAGCCTTTGGCTTCCCTAGCTGGGTCAGTC.....A 786
.....GGTCACTTCTCTAGATTCAG.....CTTGGCTGTCTCTCTGGCTGGGTCAGCTGA 786

Mus Rattus Cavia Homo
.....TTTCTCCTCTC.....CCTCTGCTTCTCCAG 488
.....TCTGACCCTC.....CCTCTGCTTCTCCAG 487
GTGGCAAGCTGAGCTCT.....GGCTGCACTGCTCCAG 824
GTGCAGGACTGACTCCCGGTCTCCCTTACCCAG 768

ENSMUSG00000031349 intron 6

Description: Sterol-4-alpha-carboxylate 3-dehydrogenase, decarboxylating (Nsdhl)
 Intron number: 6
 Mouse chromosome: X
 Upstream exon length: 103
 Downstream exon length: 333
 Mouse intron length: 842
 Intron alignment length: 1541
 Total murinae branch length: 0.17556
 K_score: 0.08711
 Scaling factor: 0.55452

ENSMUSG00000031349 exon 6 (ORF 1)

Mus	AAATGGGGAAGAACCTGGTGGACTTCACCTTCGTGGAGAATGTGGTTCATGGACACATCTTAGGCGCTT	GAGCACCTCTCC	80
Rattus	AAATGGGGAAGAACCTGGTGGACTTCACCTTCGTGGAGAATGTGGTTCATGGACACATCTTAGGCGCTT	GAGCACCTCTCC	80
Cavia	AAATGGGGAAGAACCTGGTGGACTTCACCTTCGTGGAGAATGTGGTTCATGGACACATCTTAGGCGCTT	GAGCACCTCTCC	80
Homo	AAATGGGGAAGAACCTGGTGGACTTCACCTTCGTGGAGAATGTGGTTCATGGACACATCTTAGGCGCTT	GAGCACCTCTCC	80

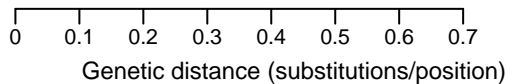
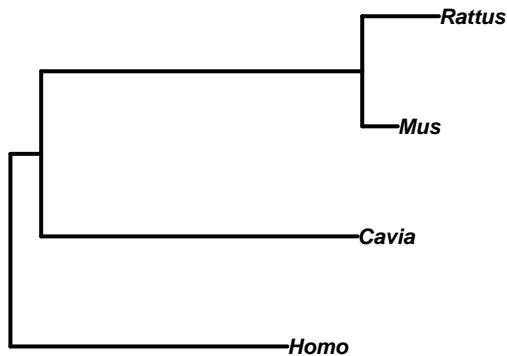
Mus	AAGATGCAGCTCTAGGTGGAAAG	103
Rattus	GAGATGCAGCTCTAGGTGGAAAG	103
Cavia	GAGATGCAGCTCTAGGTGGAAAG	103
Homo	GAGATGCAGCTCTAGGTGGAAAG	103

ENSMUSG00000031349 exon 7 (ORF 0)

Mus	GCATTTACATCACCAAAGATGAACCAATCCCTTTCTGGACGTTTCCTGTCCCGCATCTGACAGGCCTCAATTATGAGGC	80
Rattus	GCATTTACATCACCAAAGATGAACCAATCCCTTTCTGGACGTTTCCTGTCCCGCATCTGACAGGCCTCAATTATGAGGC	80
Cavia	GCATTTACATCACCAAAGATGAACCAATCCCTTTCTGGACGTTTCCTGTCCCGCATCTGACAGGCCTCAATTATGAGGC	80
Homo	GCATTTACATCACCAAAGATGAACCAATCCCTTTCTGGACGTTTCCTGTCCCGCATCTGACAGGCCTCAATTATGAGGC	80

Mus	CCCTAAGTACCACATCCCTACTGGATGGCCTATACCTTGGCTTTCCTGCTATCTCTACTGCTGATGGTGGTCAGCCCTC	160
Rattus	CCCTAAGTACCACATCCCTACTGGATGGCCTATACCTTGGCTTTCCTGCTATCTCTACTGCTGATGGTGGTCAGCCCTC	160
Cavia	CCCTAAGTACCACATCCCTACTGGATGGCCTATACCTTGGCTTTCCTGCTATCTCTACTGCTGATGGTGGTCAGCCCTC	160
Homo	CCCTAAGTACCACATCCCTACTGGATGGCCTATACCTTGGCTTTCCTGCTATCTCTACTGCTGATGGTGGTCAGCCCTC	160

ENSMUSG00000031349_intron_6



ENSMUSG00000032115 intron 13

Description: Hypoxia up-regulated protein 1 Precursor (Hyou1)

Intron number: 13

Mouse chromosome: 9

Upstream exon length: 139

Downstream exon length: 61

Mouse intron length: 1326

Intron alignment length: 1700

Total murinae branch length: 0.24623

K_score: 0.06876

Scaling factor: 0.55665

ENSMUSG00000032115 exon 13 (ORF 1)

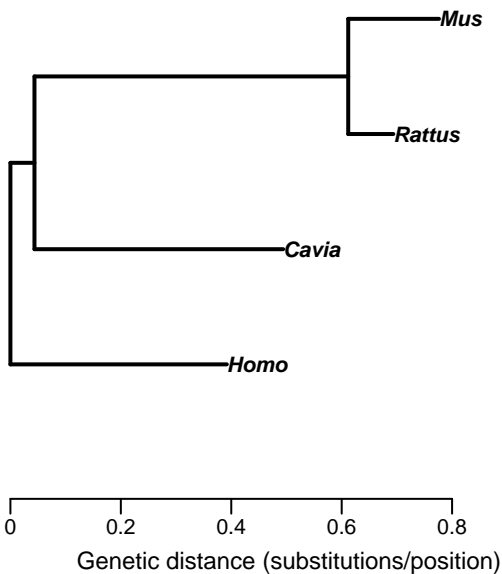
Mus	GGTATTTGGCTCCCAGAATCTGACCACAGTAAAACTAAAAGGCGTGGGAGAGAGCTTCAAGAAATATCCCGACTATGAGT	30
Rattus	GGTATTTGGCTCCCAGAATCTGACCACAGTAAAACTAAAAGGTGTGGGAGAGAGCTTCAAGAAATATCCTGACTATGAGT	30
Cavia	GGTATTTGGCTCTCAGAATCTGACCACAGTGAAGCTAAAAGGTGTGGGTGACAGCTTCAAGAAATATCCCGACTATGAGT	30
Homo	GGTATTTGGCTCCCAGAATCTGACCACAGTGAAGCTAAAAGGTGTGGGTGACAGCTTCAAGAAATATCCTGACTATGAGT	30

Mus	CCAAAGGCATCAAGGCCCACTTTAACCTGGATGAGAGTGGCGTGCTCAGTTTAGACAGG	139
Rattus	CCAAAGGCATCAAGGCCCACTTTAACCTAGAGGAGAGTGAAGTGCTCAGTTTAGACAGG	139
Cavia	CCAAAGGCATTAAGGCCA CACTTCAACTCTGGATGAGAGTGAAGTGCTCAGTCTAGACAGG	139
Homo	CCAAAGGCATCAAGGCCCTCACTTCAACTCTGGATGAGAGTGGCGTGCTCAGTCTAGACAGG	139

ENSMUSG00000032115 exon 14 (ORF 0)

Mus	GTGGAGTCCGTATTTGAGACCCTGGTGGAGGATAGCCAGAGGAAGAATCTACTCTTACCA	61
Rattus	GTGGAGTCCGTATTTGAGACCCTGGTGGAGGACAGCCAGAGGAAGAGTCTACTCTTACCA	61
Cavia	GTAGAGTCTGTATTTGAGACCCTGGTGGAGAGACAGCCAGAGGAAGAATCTACTCTTACCA	61
Homo	GTGGAGTCTGTATTTGAGACACTGGTAGAGGACAGCCAGAGAGGAATCTACTCTTACCA	61

ENSMUSG00000032115_intron_13



Mus Rattus Cavia Homo
GTGAGAGTGAAGGGAACCCCTATCTGGTAGGGTGAACCCCTGGACACCAGCCCTCTGAGTGGTTTCACTGGATACCAAAAACATTT90
GTGAGAGCAAAAGGGAACCCCTATCTGAGTAGGAGTGAACCCCTGGACACCAGCCCTCTGAGAGTAGGTTTCCAGAGATAAGCATAAAGCATT96
GTGAGAGCAAAAGGGAACCCCTATCTGAGTAGGAGTGAACCCCTGGACACCAGCCCTCTGAGAGTAGGTTTCCAGAGATAAGCATAAAGCATT98
GTGAGAGCAAAAGGGAACCCCTATCTGAGTAGGAGTGAACCCCTGGACACCAGCCCTCTGAGAGTAGGTTTCCAGAGATAAGCATAAAGCATT107
Mus Rattus Cavia Homo
CGGAACGAGATAGAAATGAATCTTGGTTTCTTTGACCCAGCAATAGTATAGTCACTGTAACCTTGGTTAGA...161
TGAAGGCAATCTGCAATCTTGGTTTCTTTAGCAGAGTGTCCATTC...TCTGTAAAGTTGCTTAGA...190
GGG...GTCTGGTAGTCTTGGCTT...TCTGTAAAGTTGCTTAGA...110
AGGA...ATCAGAA...AATGTTGGCTTCAACAGAGCTA...CTGATCTGGTGCACACCCTGCTTATAGCTTATAATGCTTATAGCCATTTGAAATTTCTTGAACCTA212
Mus Rattus Cavia Homo
GGAAAAACAGATTTAAACACAAAGGGGGTGGAGAGATGGCTCGTGGTTAAAGCCACCAAGCTGCTTCTTGAAGGTCATGAGTTCAAATCACAAACATCCATAATGA269
GAGAAATACAGATT...204
TTGATGCTTTGATATAGGCATTTGTAATTTCTTGGACCAATTCATGCTTGAAGAACTCCACTCTTTTTT...119
TCTTTAAAAACAAAAAACAAAAATTCAAACCATGTGTAGGCT...379
AGCCGATCTTCTTGAAGACAGCTGCAGTGTGCTTACATATAATAATAAAGTAAATTTTTAAAAACAAAAAACAAAAATTCAAACCATGTGTAGGCT...230
TTTTTTT...TTTAAACATGGTGGATA...166
TTTTTTT...TTTGAAGGCTTGGCT...332
Mus Rattus Cavia Homo
ATGTC...TGCAGCATTTATGTACTGTGGCCATGAGGGCTAAACTGGATCTAGGATCCCTAGAACTGGAGTTAATAAATGGATGTGGATCT473
ATGTC...TGCACGATTTATGTACTGTGGCCATGAGGGCTAAAGAGGATATGGATCCCTAGAACTGGAGTTAATAAATGGATGTGGATCT325
GGAGTCACTTGGCTTGGCTCACTTTGTAGCCCTGGCTGGCTTGAACCTTGA...AGATCCCTCTGCCAGGATCCCAAATGGCTGGATCA261
GTTACTTAAAGCTGGAATATAATAGGCTATGCTATAGGGATTCAGACCTTGAACAATTTGGCTTAA...ATGATCCCTCCATCCAGCCCTCTAGAGGCTGGAGCA437
Mus Rattus Cavia Homo
GGAGTGAACCCATTCATGGCCATCT...ACAGCCCATTAAGATTTTTTGAATGTGTGATATAAGGGATGGATCCAAAGCA562
GGAAATGGACCCAGTGCAGCCATTTCT...CCAGCCCTTAAGGTTTTTGAATGTGTGATACAGAGTGGGGTGGGATGCCAGCA413
AGCTATCTCCAGCAATCTTGGAAATTTTTGTACTTTATTTATAGAATAGGCTTCCCTATGTGCCAGACTGGCTCTAACCTCCGGATCAAGCGATCA547
Mus Rattus Cavia Homo
GCCACAGGAGTCTAGAGCCAGG...TGAACAGGAAACTAGTGGGTTCTCTCTCCCTTTCTGGAGAGTAACTAGCTTT...AGCTGGTGGCCATCTT657
GGCACTGGAGTGGCTGAGAGGCA...GGAACAGGAAAGTACTTGGGTTCT...TACTTT...AGCTGGTGGCCATCTT648
GCCAGGCTAAGTAGAAGCTGA...GTAGG...CTGCTGGGCTTAAAGCT...ATGGCACTGAAT...365
GCTCAACCTCCGAAAGTACAGGATATGGTGGGAGCCCGCAGCCCTAGGAATCCACTTATTTATTTTACTTTTTTGGAGACAGACTTGGCTGTGT653
Mus Rattus Cavia Homo
CCAGCCAGAGAA...TCCCTCTTTAAATTCAG...TTTAAATAAATGTGGCAATGGTTGGCTGCACA724
CCAGCCAGAGAA...TCCCTCTTTAAATTCAG...TTTAAAGTAAATGGATGGTGGTTGGCTGTACAT562
TCAATACTGAGAACTACAGAAATGATTTGAGAAAGCCCACTTCTTTAAATTCAG...TGTCTCTAGGATATCTCTGGCAAAAGATGCCA452
CCAGCTCTGAGTAGAGTGAAGTCTTCTGCAAGCTCCGCTCCGGGTTCAAGTGA...TCTCTCTGTCTAGGCTCTAGAGGCTGGATACAGGCTCCCTGGCACTCA763
Mus Rattus Cavia Homo
TCTCTCC...ATCATATGATTTCTGATCTCTCAGCAGCAACAAGAG...769
TCTCTCC...ATCATAG...777
CTGCTTAATTTTTGTTATTTGGAGTAGAGATAGGGTTTCAACATCTTGGCAGTCTGGTCTCAACC...CTGACTCA841
Mus Rattus Cavia Homo
GGAGTCAGATCCCTGGCTGT...GAGAGATGCTTGAGGCCCATCTCAATCTTGAACAATCTCTGGTTC...846
GGTCTCAGATACCCCTGTCTGGAGGCT...TACAGATGGCTGCAAGCCACCATCTGCTGTGGGAAITGAACCGAGGACC...857
AGGACCC...CTAGTCAGAGAGGCTGAGCACTAGGAGCCCTTAAGAAAGCAAGTGAAGGCCAAATTTAGCTCAGTGAACAAAGTGGATGCTGGCAAG623
GTGATCCACCTGCCCTTCCCTCCAAAGTGTGTAGATTAACAGCAAT...AAAGCCACTGAGCTGGCCAGGAATCTCTTTTGAAGAACAAATCTGGGGTAAATAG944
Mus Rattus Cavia Homo
TACTGAAAACAGCTCCATGTTCTTCTTACAGAGCCATCTCTTCACTCCCAAAGAGTAATTTTGA...GCCAGGCTGGTGGTCCAGCACTTAGAGACAGAG948
CTGGAAAGCACTCTGCTTAAAGCACTGAGCCATCTCTGAGCTGT...CTAGCTGGTGGGAAITGAACCGAGGACC...707
TATGAGGTTCTGAGTGGCTGGCTTCTGCAAGTGAAGGCAAGGCAAGGCACTGATCTGCAACCTGATCCAGCAATCTGGAGCTGAG733
GATGTAATAGCCAAAGAGTATG...AGTGGAGAAAGTGGG...GCTCTTTGGAGAACAAATCTGGGGTAAATAG1002
Mus Rattus Cavia Homo
GC...CACTCTCAGTTGAGGCCAGGCTGCTCTCAAAAATGACTCTAGGACAGCCAGGGCTCTGTGATATTGAGAGAAGTGTCTCCAAAAA...1053
GAGAGGCAATTAGTGAAGTTGAGGCCAGGATGTTTATAAATGA...707
GA...779
1004
Mus Rattus Cavia Homo
GTTTTTCACTTAGAATTTTCTGGCCACGGGAAAAATGGTTTATTGATTGCAAGTGGAGCACTAGAGGACTCTATGGAGAGGAGTGGGAGCCCTGCTCTGAGAAACTG1163
...GTTCCAGGCCCTGCCAGAACTACATACCAAACTCTGCTCTGAGAGGGCT...707
...GCTGGAGCCCTATTCATGAGAGGGCT...821
...C1030
Mus Rattus Cavia Homo
GCATTAAGAGGA...GATTCTGCATCTAGGAGTCTAGAAAAGGAGGGTGAAGAGTATAGATCTCTAACAGGTGCAAGTCAATTTTGTATTCTAGTGTATGCATAAGCA...1269
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TTAATCAAAAGAGATGGCACTCACCTCCAAGTCTTAGAAAAGGCAAGTGAAGAGTACTAGGCTGTGAGCCG...ATGGAGTGTGATAAGCACT864
Mus Rattus Cavia Homo
GCACACTTGTGGAGAGCA...T1288
GCATCCCTGCAAGAGCA...T758
CGCTCCTTGGCAAGTGTTTTATGGAGAAAATGCCACTGGCCTGAAACTTGCAGTGTCTTCTGCCTCAGCCCTCTGAGTACTGGAATTGCAAGGTGTGTCCACTGTGCC974
CACCGACTTGGCAAGTGTTTTGTGGAGAAAAGG...T1156
Mus Rattus Cavia Homo
GGTCTATGTGATTTTAA...CCGATTTCAA...ATAG1326
GGGTATCTGCAAGTATTTAAAAACTTTTTTTCAA...ATAG799
AGGTAAGCTGCTCT...TTGATTTGAAACCTTTTCTAG1015
GATAGCTGTGATTTT...TTCAATTTGAACCTGTTTCTAG1197

ENSMUSG00000024382 intron 4

Description: TFIIH basal transcription factor complex helicase XPB subuni (Ercc3)
 Intron number: 4
 Mouse chromosome: 18
 Upstream exon length: 50
 Downstream exon length: 136
 Mouse intron length: 640
 Intron alignment length: 718
 Total murinae branch length: 0.43263
 K_score: 0.07292
 Scaling factor: 0.56463

ENSMUSG00000024382 exon 4 (ORF 0)

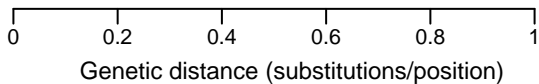
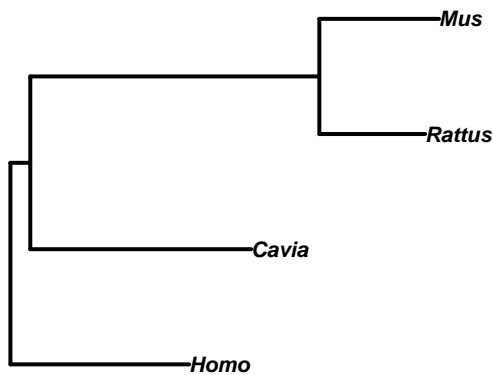
Mus	C	T	G	T	C	A	C	T	G	T	C	A	G	C	T	A	T	G	G	G	A	A	G	C	T	C	A	A	G	C	T	G	G	T	C	C	T	C	A	A	G	C	A	C	A	C	A	G	50		
Rattus	C	T	G	T	C	A	C	T	G	T	C	A	G	C	T	A	T	G	G	G	A	A	A	A	G	C	T	C	A	A	G	C	T	G	G	T	C	C	T	C	A	A	G	C	A	C	A	C	A	G	50
Cavia	T	T	G	T	G	T	A	C	T	G	T	C	A	G	C	T	A	T	G	G	A	A	A	A	A	G	C	A	A	G	C	T	G	G	T	C	C	T	C	A	A	G	C	A	C	A	C	A	G	50	
Homo	T	T	G	T	G	T	A	C	T	G	T	C	A	G	C	T	A	T	G	G	A	A	A	A	A	G	C	A	A	G	C	T	G	G	T	C	C	T	C	A	A	G	C	A	C	A	C	A	G	50	

ENSMUSG00000024382 exon 5 (ORF 1)

Mus	G	T	A	C	T	T	T	G	T	T	G	A	A	A	G	T	T	C	C	A	C	C	T	G	A	T	G	T	A	T	C	C	A	G	C	A	T	C	T	T	C	T	T	C	A	A	G	A	C	C	C	A	G	T	G	A	T	C	C	G	G	A	A	T	G	T	C	G	C	T	T	G	A	G	G	A	80
Rattus	G	T	A	C	T	T	T	G	T	T	G	A	A	A	G	T	T	C	C	A	C	C	T	G	A	T	G	T	A	T	C	C	A	G	C	A	T	C	T	T	C	T	T	C	A	A	G	A	C	C	C	A	G	T	A	T	C	C	G	G	A	A	T	G	T	C	G	C	T	T	G	A	G	G	A	80	
Cavia	G	T	A	C	T	T	C	G	T	T	G	A	A	A	G	T	T	C	C	C	A	C	C	T	G	A	T	G	T	A	T	C	C	A	G	C	A	T	C	T	C	T	T	C	A	A	G	A	C	C	C	A	G	T	G	A	T	C	C	G	G	A	A	T	G	T	C	G	C	T	T	G	A	G	G	A	80
Homo	A	T	A	C	T	T	C	G	T	T	G	A	A	A	G	T	T	G	C	C	A	C	C	T	G	A	T	G	T	A	T	C	C	A	G	C	A	T	C	T	T	C	T	T	C	A	A	G	A	C	C	C	A	G	T	G	A	T	C	C	G	G	A	A	T	G	T	C	G	C	T	T	A	G	A	A	80

Mus	A	G	C	C	G	A	G	G	G	C	G	A	G	G	C	C	A	C	G	A	A	C	T	C	A	T	C	A	C	A	G	A	G	A	C	T	T	T	T	A	C	A	A	G	C	A	A	A	T	C	T	G	C	T	136				
Rattus	A	T	G	C	C	G	A	G	G	G	A	G	A	G	G	C	T	A	C	T	G	A	A	C	T	C	A	T	C	A	C	A	G	A	G	A	C	T	T	T	A	C	G	A	G	C	A	A	A	T	C	T	G	C	T	136			
Cavia	A	T	G	C	T	G	A	G	G	G	G	A	G	C	A	C	T	G	A	A	C	T	G	A	A	C	T	C	A	T	C	A	C	A	G	A	G	A	C	T	T	C	A	C	A	A	G	C	A	A	A	T	C	T	G	C	T	136	
Homo	A	C	T	C	T	G	A	A	G	G	G	A	G	G	C	A	C	T	G	A	A	C	T	G	A	A	C	T	C	A	T	C	A	C	A	G	A	G	A	C	T	T	C	A	C	A	A	G	C	A	A	A	T	C	T	G	C	T	136

ENSMUSG00000024382_intron_4



Mus
Rattus
Cavia
Homo

G T G A C C A C T G C C C T C T G T G C C A G C C G G G A G G G A G G G A G G G A G G G A G G G A G G G A G G C 71
G T G A G T A C T G C C T T C T A C A T G C C A G T A G G A G T G G A 33
G T A A G A T G C A C T G T G C T T C C A T G A T G C C T T A T C C T A A G C A T T T T C A T G C C T G T C C A G A G G A A G 72
G T A A G A G A T T C C A T G A C A G G G C T T C C C A A G G A A C T G T A C T T T C T G C C A C C A G A G A A A 63

Mus
Rattus
Cavia
Homo

T G G A G G G C A G G A G G G A G G G A G A G A G C G A G G A G A A G G G A G A G A G C C G G A G G A G G C C G C C T C A C A C C C T T C C T G A C A 155
. G A G G C G T A G C T A G A G G A G T C C T T G A B G C C G G G T G A C A G C T G C T T G G A 89
. A A G G A T T G G G A A G G A C C T G A T G T T T A T G C T C T C T T T C C T G A A G 140
. A A G G A T T G G G A A G G A C C T G A T G T T T A T G C T C T C T T T C C T G A A G 140

Mus
Rattus
Cavia
Homo

C A T A G A T G G G G A G T T C A C C G A A C C C G G A A G G A A A G G A G C C C T C A G G G A C T G A C C C T C A A G C G . T C T G A A C T T A A C A T T T G C A G T G A T G A T G 254
C A G A G A T G G A A A G C C A G G G C C T G G G A A G G A A A G G A G T C C T T C C A G C T G A T A A T C A A G A A T T C T G G A C G T T A A C A T T T G C A G T G A T G C T A C C 185
C A C A G A T A A A A G A C C C A A T G T G C C C A A G T G G A A A C C C A T T C A G C T G A T A A T C A A G A A T T C T G G A C G T T A A C A T T T G C A G T G A T G C T A C C 187
C A C A G A T A A A G A C C C A A T G T G C C C A A G T G G A A A C C C A T T C A G C T G A T A A T C A A G A A T T C T G G A C G T T A A C A T T T G C A G T G A T G C T A C C 185

Mus
Rattus
Cavia
Homo

C A C A C A G G C A T A G G C T T C C T T T T T A C A T A C A G A T G C T T T A A G A A G A . C C T G A A T C G A C G G A C C A C A C T C A A G C T G A G A G C A T T C T G A C C T T T G A G T T T A A C T C T 363
T G C A T A C A G C T T T T C C C T T T T T A T A C A G A T G C T T T A A G A A G A . C C T G A A T C G A C G G A C C A C A C T C A A G C T A T A A G C A T T C T G A C C T T G A T T T T A A C T G T 289
. A C C T A C T G A G G C A C H T A 197
. G G C A C H T A 175

Mus
Rattus
Cavia
Homo

G C T C C T T T C C C G . G G T G A A C C A G G T T A G G A G A T T C A C A G G A A G G C C T T T T T A C T C C T G C T G C T G A C A T G C T G A C T T A A C T T C A G G T C C C G . T C T C C T C T G A C C 472
A C T T T T T G C A G G T . G T A G A C T T A C T T T T A G G A G A T T T C A G A G G A A G G T T A T T T T C C T G C T G C T T A C A T G C C A T T T A A C T T C A A A G G G G C T C T C C T C T G A C C 399
. T T C C A T A G T T G C A G A A C T G G G G C T T A C A C C T T C T G A T T G A T T T C A G A T T G A G G A T T T G C C G A A A A 267
. T T T C C T C T A G C A G T G A G C T G G C T C A G G C C C T G C T A C T T G A C C T C A A A G T C A C A A C C 235

Mus
Rattus
Cavia
Homo

T C A G C C T G T T A G A G C T T T G C C A T A G C C C T C T C T C G A T T T G A C A A A G T G T G G G A G A G T C A T T A G A G G C T G T A A T T T C A G A T C A C C C A A C T G A G T T A C A A T T G C A 582
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G T C T G T G T T A T T T A T G A C C A G C C T T A T A A T T C A A T T T G C C A A G G G . T A T T C T A T G A G G T G A C A A T T T C A G A C C A T T G A A T C A A T C A G T G C T A 367
C T C A T A T G T T A A T C A T G C C G G C A G C A T G T A C A G A T T T G C C A A G G . T T G T G G C A G A C T C A T G A G G C T T G T A T T T C A G A C C A T G A A T T G A A T G A G C A C T G 342

Mus
Rattus
Cavia
Homo

G A A T G T T C T A G A A A T C A G T G C T G G C C A G C A G G G A C T C C T T C C T C C C T G C T T G T A G 640
G A A T G T T C A G A A A T G A T T G C C T G G C C A G T A G . A C T T C T T T T C T C T C C T G C T T G A G 551
G A A T G T T C A G A A A T G A T T G C C T G G C C A G T A G T A T G C C T T C T T G C C G T G C T T G A G 425
G A A T C T C A G A G G T . A C C T G C T G T C A G T A G C C C T T C T T C C T G C C C T G C T T G A G 399

ENSMUSG00000036733 intron 7

Description: RNA-binding protein 42 (Rbm42)

Intron number: 7

Mouse chromosome: 7

Upstream exon length: 333

Downstream exon length: 118

Mouse intron length: 209

Intron alignment length: 248

Total murinae branch length: 0.21614

K_score: 0.07753

Scaling factor: 0.56546

ENSMUSG00000036733 exon 7 (ORF 0)

Mus	GGCCCTCGCCATGCCCTTGCCTGAGCCTGAGCCCTTGGCCCTCCCACTGGAGGTGGTACCTGGCCTGCTGCCTCCGCTGA	80
Rattus	GGCCCTAGCCATGCCCTTGCCTGAGCCTGAGCCCTTGGCCCTCCCACTGGAGGTGGTACCTGGCCTGCTGCCTCCGCTGA	80
Cavia	GGCCCTGGCCATGCCCTTGCCTGAGCCTGAGCCCTTGGCCCTCCCACTGGAGGTGGTACCTGGCCTGCTGCCTCCGCTGA	80
Homo	GGCCCTGGCCATGCCCTTGCCTGAGCCTGAGCCCTTGGCCCTCCCACTGGAGGTGGTACCTGGCCTGCTGCCTCCGCTGA	80

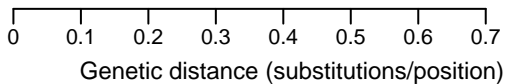
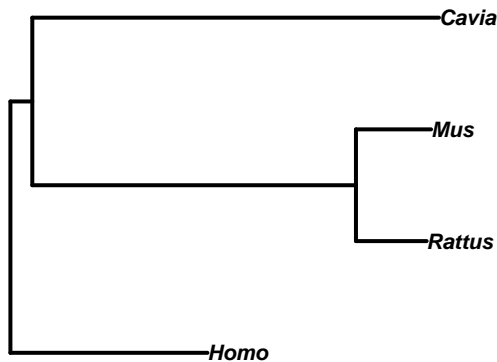
Mus	GAATTCCTGAGCTCTTGTCTCTCCGTCCACGACCTCGGCCCTCGGCCTGAGCCTCCTCCTGGCCTCATGGCCCTAGAG	160
Rattus	GAATTCCTGAGCTCTTGTCTCTCCGTCCACGACCTCGGCCCTCGGCCTGAGCCTCCTCCTGGCCTCATGGCCCTAGAG	160
Cavia	GAATTCCTGAGCTCTTGTCTCTCCGTCCACGACCTCGGCCCTCGGCCTGAGCCTCCTCCTGGCCTCATGGCCCTAGAG	160
Homo	GAATTCCTGAGCTCTTGTCTCTCCGTCCACGACCTCGGCCCTCGGCCTGAGCCTCCTCCTGGCCTCATGGCCCTAGAG	160

ENSMUSG00000036733 exon 8 (ORF 0)

Mus	GTGCCAGAGCCACTGGGTGAAGACAAGAAGAAAGGCAAGCCAGAGAAATCGAAACGCTGCATTGCACAGCAGCGGGAG	80
Rattus	GTGCCAGAGCCACTGGGTGAAGACAAGAAGAAAGGCAAGCCAGAGAAATCGAAACGCTGCATTGCACAGCAGCGGGAG	80
Cavia	GTGCCAGAGCCACTGGGTGAAGACAAGAAGAAAGGCAAGCCAGAGAAATCGAAACGCTGCATTGCACAGCAGCGGGAG	80
Homo	GTGCCAGAGCCACTGGGTGAAGACAAGAAGAAAGGCAAGCCAGAGAAATCGAAACGCTGCATTGCACAGCAGCGGGAG	80

Mus	CAGCTGGGAGGACCCACGCCTGCTGGAGTGGGATGCC	118
Rattus	CAGCTGGGAGGACCCACGCCTGCTGGAGTGGGATGCC	118
Cavia	CAGCTGGGAGGACCCACGCCTGCTGGAGTGGGATGCC	118
Homo	CAGCTGGGAGGACCCACGCCTGCTGGAGTGGGATGCC	118

ENSMUSG00000036733_intron_7



Mus	G T A A G C A G G G A A T T - - C G G A G A G G G G A C A G A A A G G C C A G G A G A G A C C A G A A G C C T A T G A G T T C C A C A C A C A G A - - - - - G G G T C C C G G T G A G 87
Rattus	G T A A G C A G G G A A T T G T C A G A G A G G G G A C A G A A A G G C C A G G A G A A A G C A G G A G C C A T G A G C T T C C A C A C A G A A A C A C A S T C C T C T C A C C A G A G G T G G T G G G A G G G 109
Cavia	G T A A G C A G A G A C A T A C C A A T G G A A G A C A C E - - - - - G C A G G A A C T G T G G C T T T A C A C A G A G T C T C T G C A G A C C A G A G A G G A C T C A A G G A C A 83
Homo	G T A A G C A G G G A G C T A G G G T G A A G G G A C A G A G G G A G G G G C C A G A C A G A G A G C C A G A A C T T C C A C A C A G A C A G A C G G A G A C G A C - - - - - G A G G A C G T G G G G A 103
Mus	G G G A G G C A A C C C T C A T A C T C C A C G T C T G G A A G C A G A T C T A G T G C T T G A A T G G A A G G T G C C A T G G C T G G A G A C - G T T C C A G A G C A T G A G A C T T C C A - - - - - 182
Rattus	G A G A G G C A G C C C T T A C A C T C C A C A T C T G G A A G C G G T C T A C T A C T T G A A T G T G A G T G C C A T G G A T G G A G G G T C T C C A G A G C A C A G A G T T G C A - - - - - 204
Cavia	G G G A G G C A G A C A G C A A C C T A C - - C C G A A G C A T A T G - A C T C G T G T A C T G G A G T A G G G G A C A A G T T C A A G C A A G T G A A G A C T G T A G C A T C A A G T C C T T T G 199
Homo	G G G A G G C G A C A C A T T G T C C C C A C A T C A G A A G C A C A T C A G C C C T T A C T G T G T G C A G A G G G C G G G A C C A A A G C A A G T G G A G A C C C C A A T A C C A A C C C C T T T G 213
Mus	- A C A C C C T T C C C T T C C T T C C C C T A T A G 209
Rattus	- A C A G C C T T C C C T T C C C C - - - T G T A G 227
Cavia	T A C G C C A T C T G C T T G C T C - - - T G C A G 223
Homo	C A G - G T C T C C C C T T T C C T C - - - T G C A G 236

ENSMUSG00000030865 intron 1

Description: Calcineurin B homologous protein 2 (2010110P09Rik)
 Intron number: 1
 Mouse chromosome: 7
 Upstream exon length: 67
 Downstream exon length: 73
 Mouse intron length: 698
 Intron alignment length: 847
 Total murinae branch length: 0.17131
 K_score: 0.07041
 Scaling factor: 0.5674

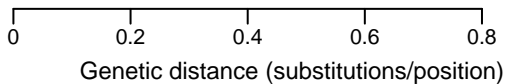
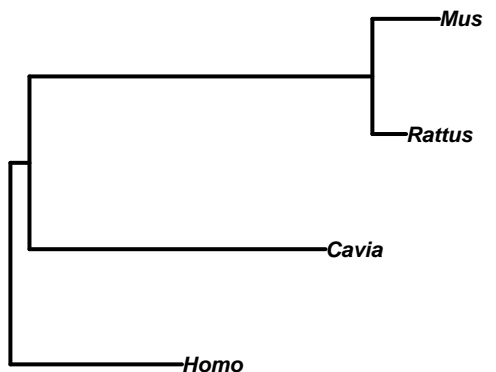
ENSMUSG00000030865 exon 1 (ORF 0)

Mus	ATGGGCTCACCAGCTCTCATATCGCGGCTCATTCCAGACGTGGAGCACATTCCGAGAGAGACAGGCT	67
Rattus	ATGGGCTCACCAGCTCTCATATCGCGGCTCATTCCAGACGTGGAGCACATTCCGAGAGAGACAGGCT	67
Cavia	ATGGGCTCAGTGCAGCTCCCAAGCGCGGCTCATTCCGAGACATTCCGAGAGAGACTGGCT	67
Homo	ATGGGGTTCGCGCAGCTCCCAAGCGCGGCTCATTCCGAGACATTCCGAGAGAGACTGGCT	67

ENSMUSG00000030865 exon 2 (ORF 2)

Mus	TCTCCCAAGCCAGCCTGCTCCGCCTCTACCACCGGTTCCAAGCCCTGGACAGGATGAAAAGGGCTTCCTAAG	73
Rattus	TCTCCCAAGCCAGCCTGCTCCGCCTCTACCACCGGTTCCAAGCCCTGGACAGGATGAAAAGGGCTTCCTAAG	73
Cavia	TCTCCCAAGCCAGTCTGCTCCGCCTCTACCACCGGTTCCGGGCTGGACAGGAACAATAAGGGCTATTGAG	73
Homo	TCTCCCAAGCCAGCCTGCTCCGCCTCTACCACCGGTTCCGGGCTGGACAGGAATAAATAAGGGCTACCTGAG	73

ENSMUSG00000030865_intron_1



ENSMUSG00000020051 intron 12

Description: Phenylalanine-4-hydroxylase (Pah)

Intron number: 12

Mouse chromosome: 10

Upstream exon length: 116

Downstream exon length: 47

Mouse intron length: 1568

Intron alignment length: 2102

Total murinae branch length: 0.27535

K_score: 0.05589

Scaling factor: 0.56744

ENSMUSG00000020051 exon 12 (ORF 1)

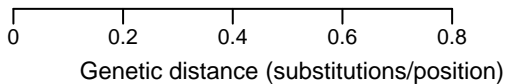
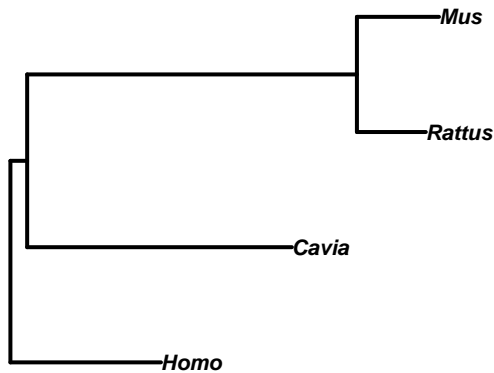
Mus	GAC	TTTT	GCT	GCC	ACA	CAAT	CCC	C	CGGCC	CTT	CTC	CG	GTT	CGCT	ATG	ACC	CCT	TAC	ACT	CAA	AGG	CTT	GAG	GTC	CT	GGA	CA	ATA	80		
Rattus	GAC	TTTT	GCT	GCC	ACA	CAAT	CCC	C	CGGCC	CTT	CTC	CG	GTT	CGCT	ATG	ACC	CCT	TAC	ACT	CAA	AGG	CTT	GAG	GTC	CT	GGA	CA	ATA	80		
Cavia	GAA	CTT	CGCT	GCC	ACA	CAAT	CCC	C	CGGCC	CTT	CTC	CA	GTT	CA	TTA	CGA	ACC	CT	TACA	CG	CAA	AGG	ATG	GAG	GTC	CT	GGA	CA	CG	80	
Homo	GAA	CTT	GCT	GCC	ACA	CAAT	A	CCT	C	GGCC	CTT	CTC	CA	GTT	CGCT	A	CGA	ACC	AT	TACA	CG	CAA	AGG	ATG	GAG	GTC	CT	GGA	CA	TA	80

Mus	CTC	AGC	AGT	TGA	AG	TTTT	AGCT	GACT	CC	ATTA	ATA	116		
Rattus	CTC	AGC	AGT	TGA	AG	TTTT	AGCT	GACT	CC	ATTA	ATA	116		
Cavia	CC	CAG	CAG	CT	GAA	GA	CT	GG	CG	GACT	CC	ATTA	ATA	116
Homo	CC	CAG	CAG	CT	TAA	GA	TTTT	GGCT	GATT	CC	ATTA	ATA	116	

ENSMUSG00000020051 exon 13 (ORF 2)

Mus	GT	GAG	GT	GGA	AT	CCT	TT	GCA	T	GCC	CT	GC	A	GAA	AA	TAA	AGT	C	A	T	G	A	47
Rattus	GT	GAG	GT	GGA	AT	CCT	TT	GCA	T	GCC	CT	GC	A	GAA	AA	TAA	AGT	C	A	T	G	A	47
Cavia	GT	GAA	GT	GGA	AT	CCT	TT	GCA	T	GCT	T	CT	GC	A	GAA	AA	TAA	AGT	-	-	G	A	44
Homo	GT	GAA	ATT	GGA	AT	CCT	TT	GCA	T	GCC	CT	CC	A	GAA	AA	TAA	AGT	-	-	A	A	44	

ENSMUSG00000020051_intron_12



Mus 104
Rattus 137
Cavia 95
Homo 107

Mus 187
Rattus 207
Cavia 207
Homo 217

Mus 286
Rattus 304
Cavia 304
Homo 311

Mus 382
Rattus 376
Cavia 384
Homo 407

Mus 482
Rattus 451
Cavia 488
Homo 517

Mus 572
Rattus 561
Cavia 595
Homo 586

Mus 642
Rattus 623
Cavia 705
Homo 586

Mus 715
Rattus 689
Cavia 815
Homo 586

Mus 715
Rattus 689
Cavia 815
Homo 586

Mus 756
Rattus 728
Cavia 1035
Homo 586

Mus 862
Rattus 831
Cavia 1121
Homo 637

Mus 934
Rattus 903
Cavia 1231
Homo 638

Mus 1010
Rattus 979
Cavia 1341
Homo 638

Mus 1089
Rattus 1046
Cavia 1438
Homo 706

Mus 1179
Rattus 1136
Cavia 1547
Homo 805

Mus 1289
Rattus 1231
Cavia 1627
Homo 889

Mus 1399
Rattus 1298
Cavia 1689
Homo 966

Mus 1489
Rattus 1406
Cavia 1799
Homo 1063

Mus 1556
Rattus 1474
Cavia 1906
Homo 1169

Mus 1568
Rattus 1486
Cavia 1918
Homo 1181

ENSMUSG00000064158 intron 2

Description: Izumo sperm-egg fusion protein 1 Precursor (Izumo1)
 Intron number: 2
 Mouse chromosome: 7
 Upstream exon length: 75
 Downstream exon length: 87
 Mouse intron length: 766
 Intron alignment length: 856
 Total murinae branch length: 0.23960
 K_score: 0.06154
 Scaling factor: 0.5676

ENSMUSG00000064158 exon 2 (ORF 2)

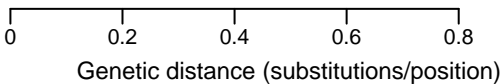
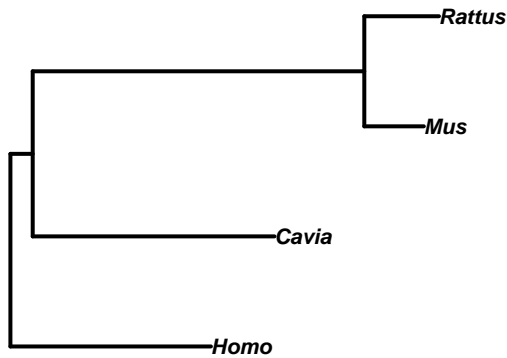
Mus	A	G	G	A	A	C	A	C	A	C	T	G	A	A	C	A	A	G	C	A	A	C	C	T	G	A	G	G	A	T	C	T	G	A	A	C	C	T	A	T	T	A	C	A	G	A	C	A	G	T	G	A	C	T	T	A	A	A	A	G	75
Rattus	A	T	G	A	G	A	A	C	A	C	T	G	A	A	C	C	A	A	G	C	A	A	C	C	T	A	T	T	A	C	G	A	C	A	G	A	T	C	T	T	A	C	A	G	A	G	T	G	A	C	T	T	A	A	A	A	G	75			
Cavia	A	T	G	A	G	A	A	C	A	C	T	G	A	A	C	C	A	A	G	C	A	A	C	C	T	A	T	T	A	C	G	A	C	A	G	A	T	C	T	T	A	C	A	G	A	G	T	G	A	C	T	T	A	A	A	A	G	75			
Homo	A	T	G	A	G	G	C	A	C	A	C	T	G	A	A	A	G	G	C	A	T	C	C	T	G	A	G	A	T	C	T	G	A	A	C	C	T	A	T	T	A	C	A	G	A	C	A	G	T	G	A	C	T	T	A	A	A	A	G	75	

ENSMUSG00000064158 exon 3 (ORF 2)

Mus	G	A	G	A	G	A	A	C	T	A	T	T	G	A	T	G	C	T	T	C	T	C	A	T	C	A	A	A	G	G	A	C	A	T	C	T	T	A	A	C	A	A	T	C	T	T	G	C	T	A	G	A	C	A	G	T	T	C	C	A	A	80
Rattus	G	A	G	A	G	A	G	C	T	A	T	T	G	A	T	G	C	T	T	C	T	T	G	C	A	A	A	A	G	G	A	C	A	T	C	T	T	G	C	A	C	C	T	T	G	T	T	G	C	A	C	T	T	C	C	A	A	80				
Cavia	A	G	A	G	A	G	A	G	C	T	A	T	T	G	A	T	G	C	T	T	C	T	T	G	C	A	A	A	A	G	G	A	C	A	T	C	T	T	A	A	C	A	A	T	C	T	T	G	C	A	C	T	T	C	C	A	A	80				
Homo	G	C	G	A	T	C	T	T	C	T	G	A	A	G	A	G	C	T	A	T	T	G	A	T	G	C	A	T	T	G	C	A	A	A	G	A	A	C	T	T	G	C	A	C	T	A	T	G	T	T	C	C	A	A	80							

Mus	A	A	G	G	A	A	G	87
Rattus	A	A	G	G	A	A	G	87
Cavia	A	A	G	G	A	A	G	87
Homo	A	A	A	G	A	A	G	87

ENSMUSG00000064158_intron_2



Mus 89
Rattus 901
Cavia 902
Homo 101
101
101
107
197
197
209
197
301
307
313
218
410
416
422
528
498
499
443
435
577
593
443
545
684
703
457
766
784
522
674

ENSMUSG00000030703 intron 1

Description: Glycerophosphodiester phosphodiesterase domain-containing pr (Gdpd3)
 Intron number: 1
 Mouse chromosome: 7
 Upstream exon length: 139
 Downstream exon length: 43
 Mouse intron length: 292
 Intron alignment length: 411
 Total murinae branch length: 0.14735
 K_score: 0.08684
 Scaling factor: 0.57245

ENSMUSG00000030703 exon 1 (ORF 0)

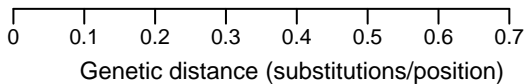
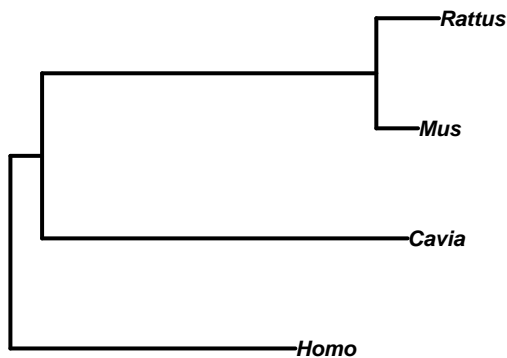
Mus	ATGATCCCTCTCCTGTACTTTGTTCTGCCACCCCTGGGCAGTTACGTCATGCTCTCCATCTTCTTCCTGCGCCGACCTCA	80
Rattus	ATGATCCCTCTCCTGTACTTTGTTCTGCCACCCCTGGGCAGCTATGTATTTCTCTCCATCTTCTTCCTGCGCCGACCTCA	80
Cavia	ATGATCCCTCTCCTGTACTATGCCCTGGCCTGCCCTGGGCAGCTATGTCATGCTCTCCATCTTCTTCCTGCGCCGACCTCA	80
Homo	ATGATCCCTTTTGTGTACTATGCCCTGCCCTGGGCAGCTATGTCATGCTCTCCATCTTCTTCCTGCGCCGACCTCA	80

Mus	TCTGCTGCACACGCCGGGGCTCCCGTCTTCCCTATCCGCCTGGCTGCCACCCGTGGA	139
Rattus	CCTGCTGCACACACCCCTGGGCTCCAGGGTTCTGATCCGCCTGGCTGCCACCCGTGGA	139
Cavia	CCTGCTGCATACACCTTGGACTCCAGTCTTCCGTCCTCCGCCTGGCTGCCACCCGTGGA	139
Homo	TCTGCTGCACACGCCCAAGGGCTCCACCTTCCGATCCGCCTGGCTGCCACCCGTGGA	139

ENSMUSG00000030703 exon 2 (ORF 2)

Mus	GGTCTGGGGAAGCACTGGAGAACACCATGGAAGCACTAGAGAA	43
Rattus	GGTCTGGGGAAGCACTGGAGAACACCATGGAAGCACTAGAGAA	43
Cavia	GGTCTGGGGAAGCACTGGAGAACACCATGGAAGCACTAGAGAA	43
Homo	GATCTGGAGAGCTGCTGGAGAACACCATGGAAGCACTAGAGAA	43

ENSMUSG00000030703_intron_1



Mus	G T G A G C T G A G T C A G G G A G G T G G A A - - G G G C T G G A A T C C A T G T A G G G T G G A G T G A G C C T A A C A G A C A G G T G T C A G G T G C - - G C A G C C A - - - - - T C C T C A A G C - 95
Rattus	G T G A G C T G A A T C A G G G A T G T G G A A - - G G G A T G G A A T C C A T T T A G G A T A G A G T G A G C C A A A C A G A C A G G T G C C A T G G T G G C A G C A G C A C A - - - - - T T G T C A A G G - 98
Cavia	G T A A G C T G G C T A G A A G G A A G G G C A G G G T G G C A G C T C T T A G G A G T G G A G T G A G - - - - - G T C A A C G T G - - G C A G C A C T G A G G G T A G C T T C C A A G C - 82
Homo	G T G A G C C G S T A G G G T G A - - - - - G A C A G G T G C A A A G T G G - - A C A G C A C A G A G G G T A G G T C A A G C C - 63
Mus	T G C A A G C C A T G A T T G A A T G T T A A A - A A G A G C C - A G G A A A G G A C A G T C T T G G G C C T A G A G G G C A T G T G C A G G C A A G G A G A G G C C A G T T C A A C T G A T T G G A A G A G A G G A - 202
Rattus	T G C A G C C C A G G A G T G A A T G T T A A A C C A A G A G C C - A G S T A A G G A G A C T G T G G G C A A G T G G A G G C C A T G T G A C - G A A G C A G A G G C C A G T T G C G T G A G T G G A A G A G A A S A - 205
Cavia	A G A A T C T A G A A G C A A G G C A G G A C C A A G T A G A G A G C A G G C A A C C A - - - - - G G A A G A C T A G G A A G A A A C C T G T C H A G T G A A T T G C C - - A A G A T A - 190
Homo	G C C A T G C T A G A A A C G G G C A G G G A C C A A G A G A G A A G G A G A G C G A A G T G C A G G C C A G G T C T C A C A G A A A G A T C C T G C C C A G C C T G G G C T G G C T G G G A G T G A - 173
Mus	A G C C T A A A - - - - - C C A A G T G G G A G C C G T - - - - - C A G G A - 231
Rattus	A G C C T A A A - - - - - G C A A G C A G A T G A C C A T - - - - - C A G G A - 234
Cavia	G G C C T G G G G C T G G G G A T T A G C T C A G C G G C A T A A G C A C C T G C C T T G C A A G C A G C C G T C G T G A G T T C G A T C C C G G T A C G G A T A A A A G G T T A A A A A G T T A A A A A C A A A - 300
Homo	G G C C A G A G - - - - - G G A G A T G G A G C C A - - - - - C A G A - 200
Mus	A G A A A G G T A A G C A G G A A G G T C A A G C T A G G T C C C G G G C A T C C A - - - - - C C C A A - - - - - A C T G C T T T C C A C A G - 292
Rattus	A G A A A G G T A G G C A G G A A G G T C A A G C A G G T C C C A G G A T C C C A - - - - - C C C A A - - - - - A C T G C T T T C C A C A G - 295
Cavia	A G A A A G T T A G G C C T A A G S C C G A G A C A G C C A A G G G G G G T A G G T A T A A C A G A G A T G C C G A G T G G C C C A C A G - 381
Homo	G G A A T G T G G T G A T G A G G T G G C C A G G C C C A G A C C C A - - - - - A G C C C A G A G G C C A T C C A G T G G C C C C A C A G - 275

ENSMUSG00000025733 intron 5

Description: Mitochondrial Rho GTPase 2 (Rhot2)

Intron number: 5

Mouse chromosome: 17

Upstream exon length: 54

Downstream exon length: 53

Mouse intron length: 688

Intron alignment length: 966

Total murinae branch length: 0.27959

K_score: 0.08942

Scaling factor: 0.57345

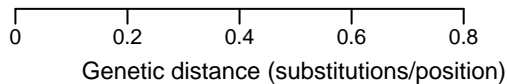
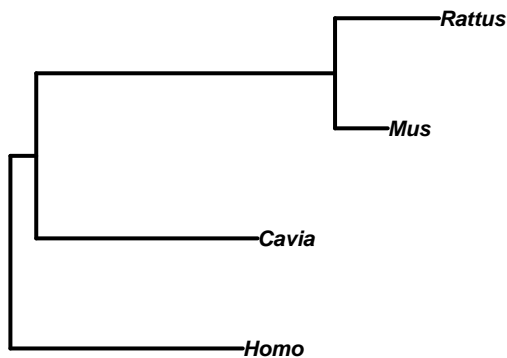
ENSMUSG00000025733 exon 5 (ORF 0)

Mus	GCAAATGTAGTGTGTGTGGTGTACGATGTGTCTGAGGAGACCACCATTGAGAAAG	54
Rattus	GCAAATGTGGTGTGTGGTGTACGATGTGTCTGAGGAGACCACCATTGAGAAAG	54
Cavia	GCAAATGTGGTGTGTGGTGTATGATGTCTGAGGAGACCACCATTGAGAAAG	54
Homo	GCAAATGTGGTGTGTGGTGTATGATGTCTGAGGAGACCACCATTGAGAAAG	54

ENSMUSG00000025733 exon 6 (ORF 0)

Mus	ATCCGAACCAAGTGGATCCCTTGTGAATGGCAGGACGGCCACAGGGGCCAG	53
Rattus	ATCCGAACCAAGTGGATCCCTTGTGAATGGCAGGACGGCCACAGGGGCCAG	53
Cavia	ATCCGAACCAAGTGGATCCCACTGGTGAATGGCAGACTGGAAAGTGGGCCAG	53
Homo	ATTCGAACCTAAGTGGATCCCACTGGTGAATGGGGGACACGCAAGGGGCCAG	53

ENSMUSG00000025733_intron_5



Mus G T A A G C A A G A G G G G A T C T C C T T G C C A T T T G T G T G T G T T T A A G A C T C A T T T G A G C C G G G C G T G G T G G C A C A C G C C T T A C T C C C A G C A C T T G G G A G G C 106
Rattus G T A A A C G A G A G G G A G C T C C T C T C C G T T T T T T T T T T T T G T T T G T T T T 52
Cavia G T C A G C A G T G G G G G T T C C C A T C T G T C C C A G G T G C C A T T G T T T 45
Homo G T G A G C 6

Mus A T A T G C A G G C G G A T T T C T G A G T T C G A G G A C A G C C T G A G T T C C A G G A C A G C C A G G G G T A C A C A G A G A A A C C C T G T C T C A A A A A A A A A A A A A A A A C C A A A A A A G A A A A 216
Rattus 52
Cavia 45
Homo 6

Mus A A A A G C T C A T T T G T T T A T A T G A A T A C A T T T A G C T G T C T T C A G A C A C C A G A A G A G G T C C T C A G A T G G T T G T G A G C C A C C A T G T G G T T C T G G G A T T G A A C T C A G A A C C 326
Rattus 326
Cavia 45
Homo 6

Mus T C T G C A G A G C A G T C A G T G C T T A A C C A C T G A G C T A T C T C T A G C C C T C C T T G T C C T A G T G C C T G C C T T A G T T G G A G T T G G C C T G G A C 417
Rattus T T G C G G T T C C T A G G C A A G G C T C T A C C A C T G A G C T A A T C C C C A A C C C C C C T C T C C G G T T T T A A C C C C T G C T G C T A G T G C C T G A C T T A T T G G G G G T T G C C T G G C 201
Cavia G A G A C C C A G A T 39
Homo C C T C A G T 25

Mus A G T A C A C A G T G G C T C T T G A T G C T C A G C C T T T C T C T A A C C C T A G C G I C T G T T G A G C C T T C A G G A A C C 485
Rattus A G T A C A T A G T G G C T C T T G A T G C T C A A G C C T T A G C T A G C C T C C T T T C T G T T G A G T C T T T A G G G G A C 269
Cavia G G C A T A T A G T G A C C T T T G G T G C A A A T G G A T C C T T A C C C A C T T T T A T G G T C A G T C C T G T A C T G T T G T C T A G G A T C 169
Homo A G C A G A G A C A C A G T G G G C G G T G T G G C C A G G T G G A C C T T C A C C A A C C C G T G G C C A G T G C C A T C G C T C A C A G C A T T T T G G G A G C C T G A C T G G A T 123

Mus C C C A C A G C T C T G A G C T A G G A A G T G T T C C C C A T A C C A G C T T G C T T G G G A G A 540
Rattus C C T G T C C C T G A G C T A G G A A G T G T T C C C T T A C C C A G C T T G C T T G G A G A T T 326
Cavia C C C A T A C T T G A T T G A G G T C A G T C T T C T T G G A C C C T T A G C T C C A T A G A G A G G C T A B A A T G A C C A A T C T A A A G C T T T A G A C C T T G C C T G 261
Homo T G C T G A C T G T G A C T C A C C C C C C C T C C T C T G T G A T C C C A C T T C C C T G A G A C G G T C T G G G C T G C C C C A T C T G A C C A T T G A C G G C G G G A G T C C T T T T C T T C C C A 233

Mus A T C G G A C A A G T 551
Rattus G C C C T A G A A T C T A T G G G G A A T G G G C A G A G G T T T G C T T T G T G G T T G G A C C C C G T C T G T T T G T G G A G G G G T G T T C A C A G C C T T A G A C A G 349
Cavia G T T T C C A A A C C C C G G G G G G G A C C G A G A G G G C T G C C T T G G G C C G C C C T A G C C T T G G C C C A G T G A C T T G G G G T T T T G G A C C A T T G G G T C A G A C A G 356
Homo 343

Mus C C C T G T C T G G G T C T G A G T C T C C C A C C A G C T T G C T C T C C A C T C T G A A A C C 303
Rattus C C C T G C T G T G A C T G C A G T C C C C C C C C C C C C A G C T T T G C T C T G C A C T C G A A A G C C 403
Cavia C T C A T G T C C T G T G C T A T C T C C T T T T C T T C C A C C A G C T T T A T T C T A G T G G C T A T A C T T T G A T C A C C A C T T G G G T T C A G C C T T T T T C T T C C T T G A C C 453
Homo A G C T G A C C T C C T G C T G C T T C T C C C A C C A G C T T T G T C T T G T G G C C G G A C T T G G C C C T C A G T T G G G C T T G A C C T C C C C T T C T G C T C T C C C A G C C 445

Mus T T G T G A G C C C C A G A A G A G A G C A T G G G C T G . G T G A G C A T G C C A T G C C T T G C T C T C G C C T C A C A C T T G G A C T T G T C T T T C A G 688
Rattus T C G T T A G T T C C A G G T A G A G A G C A T G G G C T G . G T G A G C A C C T G C G T G T C T T G G A C A C A T T T G G A C T T T G T C T T T C A G 487
Cavia T C T T G A A C C T C A G G C A G A C C G T G G G C G A G T A G A A G C C T T G T G T C A T T T A C C T T T C A G 516
Homo A G C C T C A T G C T C A G C T G G A G C C A T G T G C C G G G G C A G C C T C A C T T C A C A G C C A G C C T T C T T T C A G 516

ENSMUSG00000026281 intron 1

Description: Thymidylate kinase (Dtymk)

Intron number: 1

Mouse chromosome: 1

Upstream exon length: 130

Downstream exon length: 109

Mouse intron length: 787

Intron alignment length: 1273

Total murinae branch length: 0.17899

K_score: 0.08402

Scaling factor: 0.58328

ENSMUSG00000026281 exon 1 (ORF 0)

Mus	ATGGCGTCCGCTCCGGAGGGCTCATCGTCTGGAGGGTGTGGACCGTGTGGCAAGACCACGCAGTGCCTCAAGCTGGT	30
Rattus	ATGGCGTCCGCTCCGGGGGCTCATCGTCTGGAGGGTGTGGACCGTGTGGCAAGACCACGCAGTGCCTCAAGCTGGT	30
Cavia	ATGGCGTCCGCTCCGGGGGCTCATCGTCTGGAGGGTGTGGACCGTGTGGCAAGACCACGCAGTGCCTCAAGCTGGT	30
Homo	ATGGCGTCCGCTCCGGGGGCTCATCGTCTGGAGGGTGTGGACCGTGTGGCAAGACCACGCAGTGCCTCAAGCTGGT	30

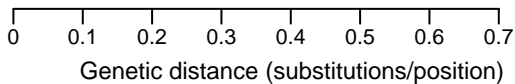
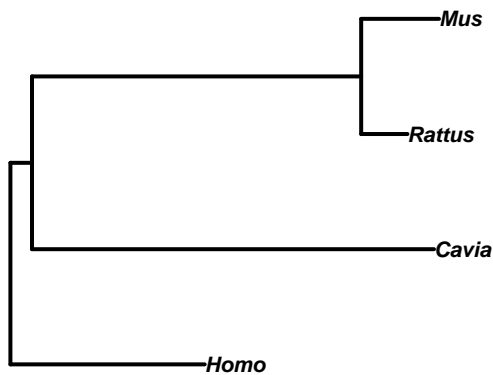
Mus	GACCGCGCTGTGGCCCTCGGGCCACAGAGCGGAGCTGCTGCGTTTCCCTG	130
Rattus	GACCGCGCTGTGGCCCTCGGGCCACAGAGCGGAGCTGCTGCGTTTCCCTG	130
Cavia	GTCCTGCTTGTGGCCCTCGGGCCACAGCGCGCAACTTCTGCGTTTCCCTG	130
Homo	GGAAGCGCTGTGGCCCTCGGGCCACAGCGCGCAACTGCTGCGTTTCCCTG	130

ENSMUSG00000026281 exon 2 (ORF 2)

Mus	AAAGATCAACGGAAATCGGCAAGCTTCTGAATTCCTACTTGGAAAAGAAAACGGAAGCTAGAGGATCACTCCGTGCACCTG	80
Rattus	AAAGATCAACGAAATCGGCAAGCTTCTGAATTCCTACTTGGAAAAGAAAACGGAAGCTAGAGGATCACTCCGTGCACCTG	80
Cavia	ATCGATCAACGGAAATCGGCAAACTTCTTGTAGTCTTACTTGGAAAAGAAAAGTGAAGCTAGAGGATCACTCAAGTGCACCTA	80
Homo	AAAGATCAACCTGAAATCGGCAAACTTCTGAGTCTTACTTGGAAAAGAAAAGTGAAGCTAGAGGATCACTCGGTGCACCTG	80

Mus	CTCTTCTCTGCAAAACCGTGGGAACAAGT	109
Rattus	CTCTTCTCTGCAAAACCGTGGGAACAAGT	109
Cavia	CTTTTTTCTGCAAAACCGTGGGAACAAGT	109
Homo	CTTTTTTCTGCAAAACCGTGGGAACAAGT	109

ENSMUSG00000026281_intron_1



Mus 68
Rattus 68
Cavia 68
Homo 68
Mus 141
Rattus 147
Cavia 81
Homo 208
Mus 236
Rattus 252
Cavia 136
Homo 270
Mus 328
Rattus 334
Cavia 196
Homo 343
Mus 410
Rattus 416
Cavia 293
Homo 419
Mus 494
Rattus 500
Cavia 383
Homo 491
Mus 586
Rattus 604
Cavia 439
Homo 555
Mus 599
Rattus 714
Cavia 452
Homo 568
Mus 692
Rattus 818
Cavia 551
Homo 677
Mus 737
Rattus 863
Cavia 660
Homo 719
Mus 755
Rattus 881
Cavia 881
Homo 770
Mus 797
Rattus 916
Cavia 833
Homo 776

ENSMUSG00000027217 intron 3

Description: Tetraspanin-18 (Tspan18)

Intron number: 3

Mouse chromosome: 2

Upstream exon length: 75

Downstream exon length: 99

Mouse intron length: 895

Intron alignment length: 1264

Total murinae branch length: 0.16449

K_score: 0.06838

Scaling factor: 0.58936

ENSMUSG00000027217 exon 3 (ORF 0)

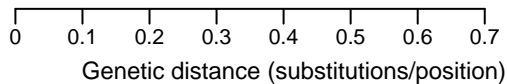
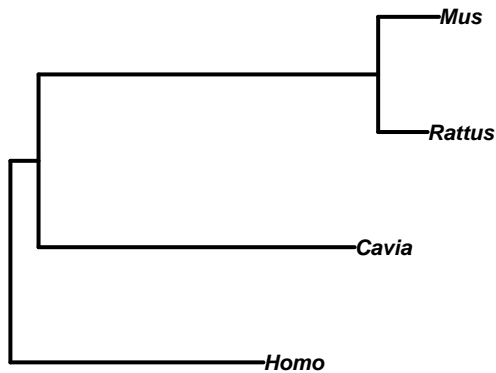
Mus	TTCTTCCTGTTTATCCTGATCATCTTCCTGGTAGAGCTCTCAGCAGGCCATCCTGGCCTTCATCTTCAGAGAACAC	75
Rattus	TTTTTCCTGTTTATCCTGATCATCTTCCTGGTAGAGCTCTCAGCAGGCCATCCTGGCCTTCATCTTCAGGAAACAC	75
Cavia	TTTTTCCTGTTTATCCTGATCATCTTCCTGGTAGAGCTCTCAGCAGGCCATCCTGGCCTTCATCTTCAGGAAACAC	75
Homo	TTCTTCCTGTTTATCCTGATCATCTTCCTGGTAGAGCTCTCAGCAGGCCATCCTGGCCTTCATCTTCAGGAAAT	75

ENSMUSG00000027217 exon 4 (ORF 0)

Mus	CTCACCAGAGAGTTCTTCAACAAGGAGCTTACCAAGCACTACCAAGGC	GATAACGATACGGATGTTTTCTCTGCCACCTG	80
Rattus	CTCACCAGAGAGTTCTTCAACAAGGAGCTTACCAAGCACTACCAAGGC	GATAAATGACACGGATGTTTTCTCTGCCACCTG	80
Cavia	CTCACCAGAGAGTTCTTCAACAAGGAGCTTACCAAGCACTACCAAGGC	GATAACGACACGATGTTCTCTGCCACCTG	80
Homo	CTCACCAGAGATTCTTCAACAAGGAGCTTACCAAGCACTACCAAGGC	AATAACGACACAGATGTTCTCTGCCACCTG	80

Mus	GAATTCAGTCATGATCACAA	99
Rattus	GAATTCAGTCATGATCACAA	99
Cavia	GAATTCAGTCATGATCACAA	99
Homo	GAATTCAGTCATGATCACAA	99

ENSMUSG00000027217_intron_3



Mus 83
Rattus 104
Cavia 99
Homo 103
Mus 188
Rattus 194
Cavia 148
Homo 194
Mus 291
Rattus 285
Cavia 233
Homo 298
Mus 382
Rattus 382
Cavia 342
Homo 382
Mus 447
Rattus 453
Cavia 394
Homo 488
Mus 533
Rattus 450
Cavia 598
Homo 598
Mus 613
Rattus 469
Cavia 708
Homo 708
Mus 614
Rattus 633
Cavia 469
Homo 818
Mus 715
Rattus 727
Cavia 514
Homo 927
Mus 824
Rattus 822
Cavia 609
Homo 1007
Mus 879
Rattus 876
Cavia 864
Homo 1115
Mus 895
Rattus 892
Cavia 710
Homo 1167

ENSMUSG00000022598 intron 2

Description: Prostate stem cell antigen Precursor (Psc)

Intron number: 2

Mouse chromosome: 15

Upstream exon length: 108

Downstream exon length: 212

Mouse intron length: 257

Intron alignment length: 506

Total murinae branch length: 0.24668

K_score: 0.04827

Scaling factor: 0.58956

ENSMUSG00000022598 exon 2 (ORF 2)

Mus	---	GTGCTGCTCTGCACTGCTATTTCATGCACAGCACACATGAACAACAGAGACTGTCTGAATGTACAGAAGCTGCAAGCCTG	77
Rattus	---	GTGCTGCTCTGCACTGCTATTTCATGCACAGCACACATGAACAACAGAGACTGTCTGAATGTACAGAAGCTGCAAGCCTG	77
Cavia	CAG	GTGCTGCTCTGCACTGCTATTTCATGCACAGCACACATGAACAACAGAGACTGTCTGAATGTACAGAAGCTGCAAGCCTG	80
Homo	---	GCACTGGCTGCTGTGCTACTTCTTGCATAGGCGCAGGTGAGCAACGAGGACTGGCTGCAAGTGGAGAAGCTGCAAGCCTG	77

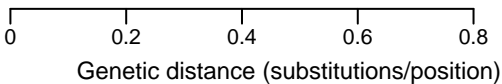
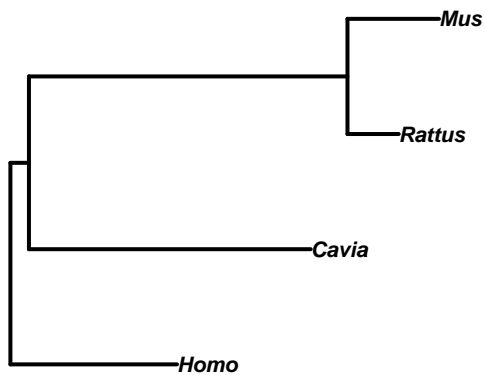
Mus	GACCAGCACAGT	GCTTACATCGCGCATCC	108
Rattus	GACCAGAACAGCT	GTTTACATCTCGTGTCC	108
Cavia	ACGGACACCTACT	GCTTACATCGCTGTCC	111
Homo	CTGGGGGAGCA	GTGCTGGACCGCGGCATCC	108

ENSMUSG00000022598 exon 3 (ORF 2)

Mus	GGCCATTGGA	CTGTGACAGTTATCAGTAAGGGCTGCAGCTCAGAGTGTGAGGATGACTCGGAGAACTACTATTTGGG	80
Rattus	GGACCATGGACT	CCTGACATTTATCAGTAAGGGCTGCAGCTCAAAGTGTGAGGATGACTCGGAGAACTACTATTTGGG	80
Cavia	GTGCCATCGGG	GCTCCTGAGATTATCAGCAAGGGTTGCAGCTCTGATTGTGTTGGATGACTCAGAGAACTACTACTTTGGG	80
Homo	GCGAGTTGG	CTCCTGAGCGTTATCAGCAAGGGCTGCAGCTTGAAGTGGCTGGATGACTCAGAGAACTACTACTTTGGG	80

Mus	AAGAAGAACATCAC	GTGCTGCTACTCTGACCTGTGCAATGTCAACGGGGGCCACACCCTGAAGCCA	157
Rattus	AAGAAGAAATAT	CATGCTGCTACTCTGACCTGTGCAATGTCAACGGGGGCCACACCCTGAAGCCA	157
Cavia	AAGAATAACATCA	CTGCTGCTACTCTGACCTGTGCAATGTCAACGGGGGCCATAGCCCTGAAGCCA	157
Homo	AAGAAGAACATCA	CGTGTGACACCGAGCTTGTGCAATGTCAACGGGGGCCATGCCCTGAGCCGGCTGCTGCCATCCT	160

ENSMUSG00000022598_intron_2



ENSMUSG00000027332 intron 8

Description: Isovaleryl-CoA dehydrogenase, mitochondrial Precursor (Ivd)
 Intron number: 8
 Mouse chromosome: 2
 Upstream exon length: 94
 Downstream exon length: 82
 Mouse intron length: 478
 Intron alignment length: 818
 Total murinae branch length: 0.15541
 K_score: 0.07661
 Scaling factor: 0.6038

ENSMUSG00000027332 exon 8 (ORF 2)

Mus	CGGCTAACGTCCTGAGGCCAGGAGACTAAGGGGGTCTACGTATTGATGAGCGGGCTGGACCTAGAGCGCCTGGTGGTACCA	80
Rattus	CTGCTAACATCCTGAGGCCAAGAGACTAAGGGGTCTACGTACTGATGAGCGGGCTGGACCTAGAGACGCCTGGTGGTGGCA	80
Cavia	CTGCCAACATCCTGAGGCCAAGAGACTAAGGGGTCTACGTACTGATGAGCGGGCTGGACCTAGAGACGCCTGGTGGTGGCA	80
Homo	CTGCTAACATCCTGAGGCCATTGAGACTAAGGGGTCTACGTGCTGATGAGTGGGCTGGACCTGAGAGCGGCTGGTGGTGGCC	80

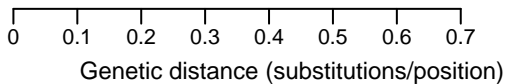
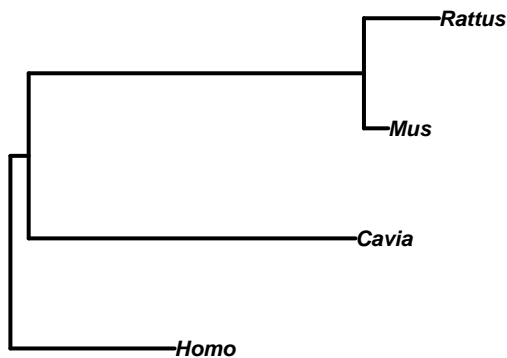
Mus	GGTGGGCCCCCTTGG	94
Rattus	GGTGGACCCCTTGG	94
Cavia	GGTGGGCCCCCTTGG	94
Homo	GGGGGGCCTCTTGG	94

ENSMUSG00000027332 exon 9 (ORF 1)

Mus	GATCATGCAAGGCTGTCCTGGACCACACCATTCCTACTTGCATGTGAGGGAAGCCTTTGGCCAGAAGATCGGCCAATTC	80
Rattus	GATCATGCAAGGCTGTCCTGGACCACACCATTCCTACTTGCATGTGAGGGAAGCCTTTGGCCAGAAGATCGGCCAATTC	80
Cavia	GTTGATGCAAGGCCTCTTGAACACACCATTCCTTACTGCAATGAGGGAAGCCTTTGGCCAGAAGATCGGCCAATTC	80
Homo	GCTCATGCAAGCGTCTCTGGACCACACCATTCCTACTGCACTGAGGGAAGCCTTTGGCCAGAAGATCGGCCAATTC	80

Mus	AG	82
Rattus	AG	82
Cavia	AG	82
Homo	AG	82

ENSMUSG00000027332_intron_8



Mus Rattus Cavia Homo
GTAAGTGTAAAG - GGCCTGAA - - - - - GGCTCCTGGGTAAAGCACAACATGTCACCAGGATCGGGCTGGG - GGTACCTGAGATCTCCAGCCCTCGTTAG 92
GTAAGTGTAAAG - GGCCTGAA - - - - - GGCTCCTGGGTAAAGCACAACATGTCACCAGGATCGGGCTGGGAGT - GGTACCTGAGATCTCCAGCTCTTTAA 94
GTAAGTGTAAAG - GGCCTGAA - - - - - GGCTCCTGGGTAAAGCACAACATGTCACCAGGATCGGGCTGGGAGT - GGTACCTGAGATCTCCAGCTCTTTAA 91
GTAAGTGTAAAG - GGCCTGAA - - - - - GGCTCCTGGGTAAAGCACAACATGTCACCAGGATCGGGCTGGGAGT - GGTACCTGAGATCTCCAGCTCTTTAA 98

Mus Rattus Cavia Homo
GTTAGCAGCTTTCACCTCGTTATGCAACA - - - - - AAGAGACAGGAAAGTTACT - - - - - TCTGTCTTGGAGA - - - - - ATCTCTCTCTACA 165
GTTAGCAGCTTTCACCTCGTTATGCAACA - - - - - AAGAGACAGGAAAGTTACT - - - - - TCTGTCTTGGAGA - - - - - ATCTCTCTCTACA 179
GTTAGCAGCTTTCACCTCGTTATGCAACA - - - - - AAGAGACAGGAAAGTTACT - - - - - TCTGTCTTGGAGA - - - - - ATCTCTCTCTACA 191
GTTAGCAGCTTTCACCTCGTTATGCAACA - - - - - AAGAGACAGGAAAGTTACT - - - - - TCTGTCTTGGAGA - - - - - ATCTCTCTCTACA 156

Mus Rattus Cavia Homo
TTTAA - - - - - CTCTTTACCCAGAAGGAAATGATGAGGTGACAGATGCAGG - - - - - GCTCTTTAATCACTGTGTTGTAAACCCAGAGCCCA 254
TTTAA - - - - - CTCTTTACCCAGAAGGAAATGATGAGGTGACAGATGCAGG - - - - - GCTCTTTAATCACTGTGTTGTAAACCCAGAGCCCA 289
TTTAA - - - - - CTCTTTACCCAGAAGGAAATGATGAGGTGACAGATGCAGG - - - - - GCTCTTTAATCACTGTGTTGTAAACCCAGAGCCCA 280
TTTAA - - - - - CTCTTTACCCAGAAGGAAATGATGAGGTGACAGATGCAGG - - - - - GCTCTTTAATCACTGTGTTGTAAACCCAGAGCCCA 251

Mus Rattus Cavia Homo
CTCTGCGCGCTGCCCACTGCCGCTGCCCGCCACACCTTCTTGATCTCAG - - - - - 304
CTCTGCGCGCTGCCCACTGCCGCTGCCCGCCACACCTTCTTGATCTCAG - - - - - 332
CTCTGCGCGCTGCCCACTGCCGCTGCCCGCCACACCTTCTTGATCTCAG - - - - - 390
CTCTGCGCGCTGCCCACTGCCGCTGCCCGCCACACCTTCTTGATCTCAG - - - - - 269

Mus Rattus Cavia Homo
AGGATCGTTGCGAGTTGGAGACCAGCCTGGGCTAAAAAGTGAGCTCAAGGCCAGCCTGAACTGCATAGAGAGACCCTGTCTCAAAAAAGACAAAAAAGCAAGCAGGGCG 500
AGGATCGTTGCGAGTTGGAGACCAGCCTGGGCTAAAAAGTGAGCTCAAGGCCAGCCTGAACTGCATAGAGAGACCCTGTCTCAAAAAAGACAAAAAAGCAAGCAGGGCG 269

Mus Rattus Cavia Homo
TCTGTAGTTGATCCCTAGTACCGATAAAAAAGAAAAAGACAAAAAAGACAAAAAAGAAAAAGCAGGCACAGTTCTGGGCTCCGCTCTGCTGGCAGGCA 610
TCTGTAGTTGATCCCTAGTACCGATAAAAAAGAAAAAGACAAAAAAGACAAAAAAGAAAAAGCAGGCACAGTTCTGGGCTCCGCTCTGCTGGCAGGCA 601

Mus Rattus Cavia Homo
GTT - - - - - CTCTCAGGCTCCTTTAGCTTTTCT - - - - - CTGGGATTCAGTTG - - - - - CCACTCAAGCCTGGGCTCCGATGCTGACATACC - - - - - 430
GTT - - - - - CTCTCAGGCTCCTTTAGCTTTTCT - - - - - CTGGGATTCAGTTG - - - - - CCACTCAAGCCTGGGCTCCGATGCTGACATACC - - - - - 467
GTT - - - - - CTCTCAGGCTCCTTTAGCTTTTCT - - - - - CTGGGATTCAGTTG - - - - - CCACTCAAGCCTGGGCTCCGATGCTGACATACC - - - - - 716
GTT - - - - - CTCTCAGGCTCCTTTAGCTTTTCT - - - - - CTGGGATTCAGTTG - - - - - CCACTCAAGCCTGGGCTCCGATGCTGACATACC - - - - - 379

Mus Rattus Cavia Homo
ATCCCCACTTGAACACAACACTCCACAGGCTTCTCTCTTTCTGGCAG 478
ATCCCCACTTGAACACAACACTCCACAGGCTTCTCTCTTTCTGGCAG 514
ATCCCCACTTGAACACAACACTCCACAGGCTTCTCTCTTTCTGGCAG 737
ATCCCCACTTGAACACAACACTCCACAGGCTTCTCTCTTTCTGGCAG 418

ENSMUSG00000041945 intron 2

Description: Major facilitator superfamily domain-containing protein 9 (Mfsd9)
 Intron number: 2
 Mouse chromosome: 1
 Upstream exon length: 88
 Downstream exon length: 44
 Mouse intron length: 1319
 Intron alignment length: 1526
 Total murinae branch length: 0.26634
 K_score: 0.03286
 Scaling factor: 0.60485

ENSMUSG00000041945 exon 2 (ORF 0)

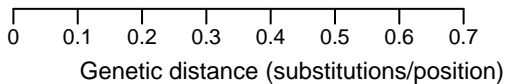
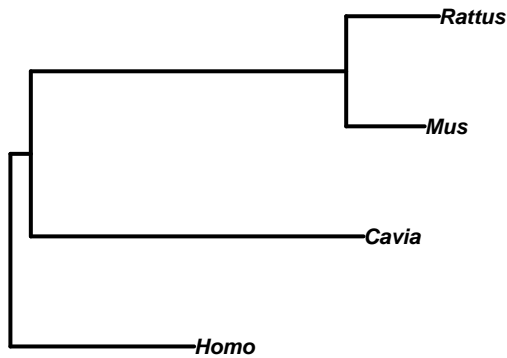
Mus	GACCTGTTTGGTGTGTCAGCATGGT	GCTCCCATTTGCTGAATCTTTCATGTCA	GATCCCTGGGAGCAAGTCCCGTAGTGGCTGG	80
Rattus	GATTCGTTTGGTGTGTCAGCATCACT	GCTCCCATTTGTTGAATCTTTCATGTCA	GATCCCTTGGAGTAAAGTCCCGTAGTGGCTGG	80
Cavia	GATTTGCTTGGGCTGTCAGCATGGT	CATCCCGTTGTTGAGCCCTTTCAGCCCAA	GTCACTTGGAGCAAGTCCGTAAGTGGCTGG	80
Homo	GATTTGTTTGGTGTGTCAGCATGGT	GCTTATTGAGCCCTTTCAGCCCAA	GTCACTTGGAGCAAGTCCGTAAGTGGCTGG	80

Mus	AATAGTAG	88
Rattus	AATAGTAG	88
Cavia	GATCATCG	88
Homo	AATAGTAG	88

ENSMUSG00000041945 exon 3 (ORF 2)

Mus	GCTCCTCATACGGCGTTTTGCAACTCTTCTCCAGCACCTTTGTG	44
Rattus	GCTCCTCCTATGGCATTGCAACTCTTCTCCAGCACCTTTGTG	44
Cavia	GTTCCCTCCTACGGAAATTTGCAACTCTTCTCCAGCACGCTGTG	44
Homo	GCTCCTCCTATGGCATTGCAACTCTTCTTAGCACATTGTTG	44

ENSMUSG00000041945_intron_2



ENSMUSG00000029408 intron 2

Description: ATP-binding cassette sub-family B member 9 Precursor (Abcb9)
 Intron number: 2
 Mouse chromosome: 5
 Upstream exon length: 115
 Downstream exon length: 131
 Mouse intron length: 423
 Intron alignment length: 548
 Total murinae branch length: 0.11990
 K_score: 0.08984
 Scaling factor: 0.60705

ENSMUSG00000029408 exon 2 (ORF 2)

Mus	GTGAGACCTTCCCTGCCCTACTACACTGGCCGGGGCCATTGACAGCATTGTGATCCAGAAAAAGCATGGATCAGTTCAACCAACA	80
Rattus	GAGAGACCTTCCCTGCCCTACTACACTGGCCGGGGCCATTGACAGCATTGTGATCCAGAAAAAGCATGGATCAGTTCAACCAACA	80
Cavia	GAGAGACCTTCCCTGCCCTACTACACTGGCCGGGGCCATTGACAGCATTGTGATCCAGAAAAAGCATGGATCAGTTCAACCAACA	80
Homo	GAGAGACCTTCCCTGCCCTACTACACTGGCCGGGGCCATTGACAGCATTGTGATCCAGAAAAAGCATGGATCAGTTCAACCAACA	80

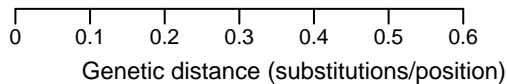
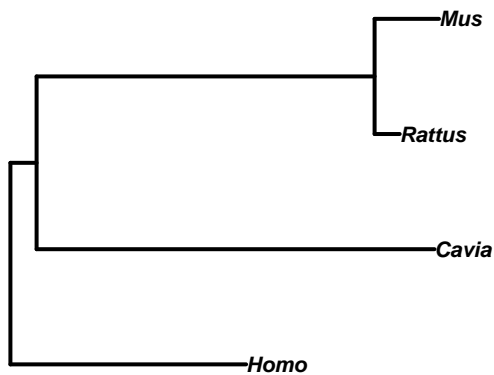
Mus	GCCGTTGTCTGTCGTTTGCCTGCTGGCCATCGGCAG	115
Rattus	GCCGTCGTCTGTCGTTTGCCTGCTGGCCATCGGCAG	115
Cavia	GCCGTTGTCTGTCGTTTGCCTGCTGGCCATCGGCAG	115
Homo	GCTGTCTGTCATCGTGTGCCTGCTGGCCATCGGCAG	115

ENSMUSG00000029408 exon 3 (ORF 1)

Mus	CTCATTGGCCGCAGGTATTCGGGGCGGATATTTTACCCCTCATATTTGCCAGACTGAACATTCGCCTTCGCAACTGTCTCT	80
Rattus	CTCATTGGCCGCAGGTATTCGGGGCGGATATTTTACCCCTCATATTTGCCAGACTGAACATTCGCCTTCGCAACTGTCTCT	80
Cavia	CTCATTGGCCGCAGGTATTCGGGGCGGATATTTTACCCCTCATATTTGCCAGACTGAACATTCGCCTTCGCAACTGTCTCT	80
Homo	CTCATTGGCCGCAGGTATTCGGGGCGGATATTTTACCCCTCATATTTGCCAGACTGAACATTCGCCTTCGCAACTGTCTCT	80

Mus	TCCGCTCACTGGTGTCCAGGAGACAAAGCTTCTTTGATGAGAACCAGCACAG	131
Rattus	TCCGCTCACTGGTGTCCAGGAGACAAAGCTTCTTTGATGAGAACCAGCACAG	131
Cavia	TCCGCTCACTGGTGTCCAGGAGACAAAGCTTCTTTGATGAGAACCAGCACAG	131
Homo	TCCGCTCACTGGTGTCCAGGAGACAAAGCTTCTTTGATGAGAACCAGCACAG	131

ENSMUSG00000029408_intron_2



Mus GTAGCCA-CCCAACCCATACACACCACCT- CCTGCAGGAGGGAGGGCAGAGGGAGCCAGGCGC- 59
Rattus GTAGCCA-CCCAACCCATACATGGCACT- CCTGCAGGAGGGAGGGCAGGAGGGTGCAGGAC- 59
Cavia GTAGCCG- CCTGCAGGAGGGAGGGCAGGAGGGTGCAGGAC- 17
Homo GTAGGTTGGCTCAACCCCCACAGCCCTGCCCCGGACACCCCGACCTGCAGCAGGGAGGGAGGGAGGGCGTTTCTTAAGGAAGACAGGGGCCAGGGAGGCCCTGGAAATGC 110

Mus GAGCCCAAGCAGTGCAGCAACCG- CCGAAGCTGAGCTGGAAACCCCTTTGGTTGGCCACATCCAGAGCTGTACCCCTTTGCTCTGAAAG 147
Rattus GAGCCCAAGCAGCGGGCAAGGT- CCGAAGCTGAGCTGGAAAGCCCTTTGGTTGGCCACATCCAGAGCTGTACCCCTTTGCTCTGAAAG 147
Cavia GAGCCCAAGCAGCTTCACTGACCGGTCTGAGCAAGCC- TAGGACCTCATCCCTGAGCAGGGAGGCGACGCTCTAAATG 113
Homo GAGCCCAAGCAGCTTCACTGACCGGTCTGAGCAAGCC- TAGGACCTCATCCCTGAGCAGGGAGGCGACGCTCTAAATG 204

Mus TGGCTCCAGTCCCTGAGAGTACCTTTCTCTCCCTGGCTGTTGGTGAATATGTAGCC- CAAAGGATGGTTTTCTATACTGTTCTAGA- AGGGT 242
Rattus TGGCTCCAGTCCCTGAGAGTACCTTTCTCTCCCTGGCTGTTGGTGAATATGTAGCC- CAAAGGATGGTTTTCTATACTGTTCTAGA- AGGGT 219
Cavia GAGGCTTCAGCCCTGAGGCTCCCTGCACTCTGCTGGCTGTTTTCCAGTATGAGATCTGGTCCCAAACAACAACCGGCTTTGTCTGAGCTGTCTCTGAGAGGAAAGAGGGT 159
Homo GAGGCTTCAGTCCCTGAGGCTCCCTGCACTCTGCTGGCTGTTTTCCAGTATGAGATCTGGTCCCAAACAACAACCGGCTTTGTCTGAGCTGTCTCTGAGAGGAAAGAGGGT 314

Mus CTGGATCCCAAGTGTAAAGT- CCTTACCCCTTGTCTAGGACTTACTGGGGAGTGAGGGGTCTAGCCGAGATGCATCCCTACAG 326
Rattus CTGGATCCCAAGTGTAAAGT- CCTTACCCCTTGTCTAGGACTTACTGGGGAGTGAGGGGTCTAGCCGAGATGCATCCCTACAG 281
Cavia CAGGCAAGCTGTCTGCTGTCCCA- CCTTACCCCTTGTCTAGGAGGGGTCTAGCCGAGATGCATCCCTACAG 235
Homo CAGGCAAGCTGTCTGCTGTCCCA- CCTTACCCCTTGTCTAGGAGGGGTCTAGCCGAGATGCATCCCTACAG 324

Mus AATGGCCCTGTCTCTGCTGCT- TGGGAGGA- GGGGCTGCTGGTGGTCAATGCTGCTTGGCGAAGGACACCGGCTATAGCTCTCTGATCTCAATCAG 423
Rattus AATGGCCCTGTCTCTGCTGCT- TGGGAGGA- GGGGCTGCTGGTGGTCAATGCTGCTTGGCGAAGGACACCGGCTATAGCTCTCTGATCTCAATCAG 390
Cavia TGGGA- GAAAGGATGCAAGGGGAGGGGGTGGTGGCTGCCCTCTCTGAGAGCCGGGGCTATAACATCTGTTATCTGCAATTAG 319
Homo TGGGGTGGGGTGGGCTCCAGGCCTGCCGCAAGCGGAGGGGCGAAGCGGCTGTGGTCACTGGTCTGAAAGACATGTGCTATAATATCTCTTATCTGCAATTAG 532

ENSMUSG00000039849 intron 7

Description: Phosphorylated CTD-interacting factor 1 (Pcif1)

Intron number: 7

Mouse chromosome: 2

Upstream exon length: 84

Downstream exon length: 100

Mouse intron length: 251

Intron alignment length: 299

Total murinae branch length: 0.28345

K_score: 0.04691

Scaling factor: 0.61008

ENSMUSG00000039849 exon 7 (ORF 1)

Mus	GTTATCCCGAATCAAGTTCGGGAGGAAGCCAAACGCCTGCTCTTTAAATA	CCAGAGGCTGCCAGCGGGCTCATTGACT	80
Rattus	GTTATCCCGAATCAAGTTCGGGAGGAAGCCAAACGCCTGCTCTTTAAATA	CCAGAGGCTGCCAGCGGGCTCATTGACT	80
Cavia	ATTATCCCGAATCAAGTTCGGGAGGAAGCCAAAGCGCTGCCAGCGGGCTCATTGACT	CCAGAGGCTGCCAGCGGGCTCATTGACT	80
Homo	GTTATCCCGAATCAAGTTCGGGAGGAAGCCAAAGCGCTGCCAGCGGGCTCATTGACT	CCAGAGGCTGCCAGCGGGCTCATTGACT	80

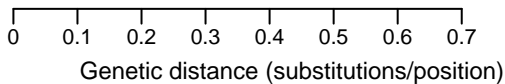
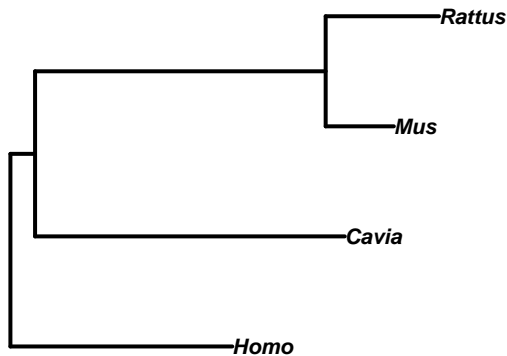
Mus	CCAG	84
Rattus	CCAG	84
Cavia	CCAG	84
Homo	CCAG	84

ENSMUSG00000039849 exon 8 (ORF 1)

Mus	GAGTGCATCCCCTGACAGCA	GAAAACTGGTCAAATGGAA	CGTGGAGGACACCTT	CAGCTGGCT	CCGGAAGGAG	CCACTCG	80
Rattus	GAGTGCATCCCCTGACAGCA	GAAAACTGGTCAAATGGAA	CGTGGAGGACACCTT	CAGCTGGCT	CCGGAAGGAG	CCACTCG	80
Cavia	GAGTGCATCCCCTGACAGCA	GAAAACTGGTCAAATGGAA	CGTGGAGGACACCTT	CAGCTGGCT	CCGGAAGGAG	CCACTCG	80
Homo	GAGTGCATCCCCTGACAGCA	GAAAACTGGTCAAATGGAA	CGTGGAGGACACCTT	CAGCTGGCT	CCGGAAGGAG	CCACTCG	80

Mus	CCTCCAAGGAGGACTACATG	100
Rattus	CCTCCAAGGAGGACTACATG	100
Cavia	CCTCCAAGGAGGACTACATG	100
Homo	CCTCCAAGGAGGACTACATG	100

ENSMUSG00000039849_intron_7



Mus	GTTTGGCT	TTTTCTGCCCCACACAATGAAATGGTGG	-----	GTGGGATGTGTGTGTTCCACATGTATACATGAACATACACGCTGT	CATCTGGCTAAATGTCAC	103																														
Rattus	GTTTGGCT	TTTTCTGCCCCACACAATGAAATGGTGT	-----	GTGGGTGTGGTGTGGTGTGTGTGTGCTGGC	-----	CATTTCCTAATGCTCAC																														
Cavia	GTTTGGCT	TTTTCTGCCCCACACAATGAAATGGTGT	-----	GTGGGATGTGTGGTGTGGTGTGTGTGCTGGC	-----	GGTTCCTTACCACCTG																														
Homo	GTTTGGCT	TTTTCTGCCCCACACAATGAAATGGTGT	-----	GTGGGATGTGTGGTGTGGTGTGTGTGCTGGC	-----	CATTCTGGCCAGTGTCAAT																														
Mus	GCA	GT	TT	GG	CA	GT	TT	AT	CA	AA	GA	CA	CA	AT	GG	AG	TA	AG	-----	GT	AG	GC	CT	AG	CT	GA	CT	GG	CA	GT	GA	GC	AG	GG	AG	181
Rattus	AC	AG	GT	CT	CA	TT	GG	TT	-----	AA	CA	CA	CA	AT	GG	AG	TA	AG	-----	TT	AG	GC	CT	AG	CT	GA	CT	GG	CA	GT	GA	GC	AG	GG	AG	183
Cavia	AG	CA	GT	CT	CA	TT	GG	TT	-----	AA	CA	CA	CA	AT	GG	AG	TA	AG	-----	TT	AG	GC	CT	AG	CT	GA	CT	GG	CA	GT	GA	GC	AG	GG	AG	185
Homo	GC	AG	GT	CT	CA	TT	GG	TT	-----	AA	CA	CA	CA	AT	GG	AG	TA	AG	-----	TT	AG	GC	CT	AG	CT	GA	CT	GG	CA	GT	GA	GC	AG	GG	AG	187
Mus	GA	GG	GA	-----	GC	AG	CA	AG	CA	CA	CT	TA	AG	CT	GG	CC	-----	CA	AG	AG	CA	AG	TT	CT	-----	CT	GC	TA	CA	AC	CT	GC	AG	251		
Rattus	CA	AG	GA	-----	CA	AG	CA	CA	CT	TA	AG	CT	GG	CC	-----	CA	AG	AG	CA	AG	TT	CT	-----	CT	GC	TA	CA	AC	CT	GC	AG	231				
Cavia	GG	AA	GA	GG	CT	GG	CA	AG	CA	CA	CT	TA	AG	CT	GG	CC	-----	CA	AG	AG	CA	AG	TT	CT	-----	CT	GC	TA	CA	AC	CT	GC	AG	236		
Homo	T	GA	GG	GA	GG	CT	GG	CA	AG	CA	CA	CT	TA	AG	CT	GG	CC	-----	CA	AG	AG	CA	AG	TT	CT	-----	CT	GC	TA	CA	AC	CT	GC	AG	242	

ENSMUSG00000006021 intron 9

Description: Kaptin (Kptn)
 Intron number: 9
 Mouse chromosome: 7
 Upstream exon length: 76
 Downstream exon length: 136
 Mouse intron length: 920
 Intron alignment length: 1532
 Total murinae branch length: 0.18335
 K_score: 0.0796
 Scaling factor: 0.61043

ENSMUSG00000006021 exon 9 (ORF 2)

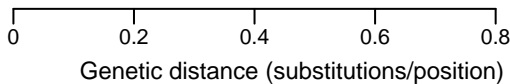
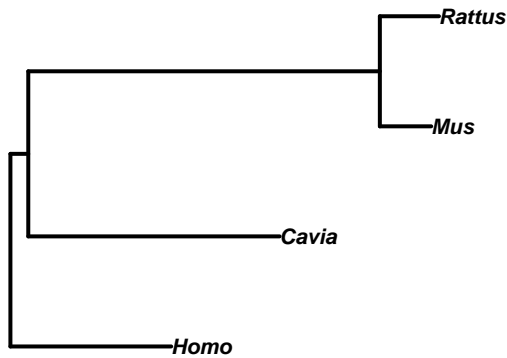
Mus	C	A	A	C	A	G	G	A	C	A	G	C	C	C	C	C	A	G	C	A	G	G	A	A	G	G	A	T	A	C	A	G	T	C	T	G	C	T	T	G	T	G	G	C	C	A	G	C	A	T	C	T	G	G	A	G	C	C	A	G	C	T	G	T	G	G	T	G	T	A	C	T	G	76
Rattus	C	A	A	C	A	G	G	A	C	A	G	C	C	C	C	C	A	G	C	A	G	G	A	A	G	G	A	T	A	C	A	G	T	C	T	G	C	T	T	G	T	G	G	C	C	A	G	C	A	T	C	T	G	G	A	G	C	C	A	G	C	T	G	T	G	T	A	C	T	G	76			
Cavia	A	G	G	C	T	G	A	G	A	C	A	G	C	C	C	C	A	G	C	A	G	G	A	A	G	G	A	T	A	C	A	G	T	C	T	G	C	T	T	G	T	G	G	C	C	A	G	C	A	T	C	T	G	G	A	G	C	C	A	G	C	T	G	T	A	C	T	G	76					
Homo	A	G	A	C	C	A	G	G	A	C	A	G	C	C	C	C	A	G	C	A	G	G	A	A	G	G	A	T	A	C	A	G	T	C	T	G	C	T	T	G	T	G	G	C	C	A	G	C	A	T	C	T	G	G	A	G	C	C	A	G	C	T	G	T	A	C	T	G	76					

ENSMUSG00000006021 exon 10 (ORF 1)

Mus	G	G	A	T	C	T	T	C	T	G	A	A	C	A	A	G	G	G	T	C	T	G	S	A	T	G	A	C	C	A	A	C	T	T	C	T	C	T	G	C	C	T	G	G	C	A	G	T	G	A	C	C	A	G	T	T	G	A	C	A	G	C	G	T	A	C	C	T	C	T	G	T	G	G	C	C	T	G	80
Rattus	G	G	A	C	T	T	C	T	G	A	A	C	A	A	G	G	C	C	T	G	S	A	T	G	A	C	C	A	A	C	T	T	C	T	C	T	G	C	C	T	G	G	C	A	G	T	G	A	C	C	A	G	T	T	G	A	C	A	G	C	G	T	A	C	C	T	C	T	G	T	G	G	C	C	T	G	80		
Cavia	G	G	A	C	T	A	C	T	G	A	A	C	A	A	G	G	C	C	T	G	S	A	T	G	A	C	C	A	A	C	T	T	C	T	C	T	G	C	C	T	G	G	C	A	G	T	G	A	C	C	A	G	T	T	G	A	C	A	G	C	G	T	A	C	C	T	C	T	G	T	G	G	C	C	T	G	80		
Homo	G	G	A	C	T	G	C	T	G	A	A	C	A	A	G	G	C	C	T	G	S	A	T	G	A	C	C	A	A	C	T	T	C	T	C	T	G	C	C	T	G	G	C	A	G	T	G	A	C	C	A	G	T	T	G	A	C	A	G	C	G	T	A	C	C	T	C	T	G	T	G	G	C	C	T	G	80		

Mus	T	C	A	C	T	G	A	C	A	A	C	C	G	G	A	A	G	T	C	C	T	G	G	T	G	G	C	C	A	C	T	A	T	G	G	A	C	A	G	136
Rattus	T	C	A	C	T	G	A	C	A	A	C	C	G	G	A	A	G	T	C	C	T	G	G	T	G	G	C	C	A	C	T	A	T	G	G	A	C	A	G	136
Cavia	T	C	A	C	T	G	A	C	A	A	C	C	G	G	A	A	G	T	C	C	T	G	G	T	G	G	C	C	A	C	T	A	T	G	G	A	C	A	G	136
Homo	T	C	A	C	T	G	A	C	A	A	C	C	G	G	A	A	G	T	C	C	T	G	G	T	G	G	C	C	A	C	T	A	T	G	G	A	C	A	G	136

ENSMUSG00000006021_intron_9



ENSMUSG00000037706 intron 5

Description: CD81 antigen (Cd81)
 Intron number: 5
 Mouse chromosome: 7
 Upstream exon length: 105
 Downstream exon length: 102
 Mouse intron length: 308
 Intron alignment length: 376
 Total murinae branch length: 0.16972
 K_score: 0.06904
 Scaling factor: 0.61246

ENSMUSG00000037706 exon 5 (ORF 0)

Mus	A	T	C	G	C	C	A	A	G	G	A	T	G	T	G	A	A	G	C	A	G	T	T	C	T	A	T	G	A	C	C	A	G	G	C	C	T	T	C	A	G	C	A	A	G	C	T	G	T	G	A	T	G	S	A	T	G	A	T	G	C	C	A	A	C	A	A	T	G	C	C	A	A	G	G	C	80
Rattus	A	T	C	G	C	C	A	A	G	G	A	T	G	T	G	A	A	G	C	A	G	T	T	C	T	A	T	G	A	C	C	A	G	G	C	C	T	T	C	A	G	C	A	A	G	C	T	G	T	G	A	T	G	S	A	T	G	A	T	G	C	C	A	A	C	A	A	T	G	C	C	A	A	G	G	C	80
Cavia	A	T	C	G	C	C	A	A	G	G	A	T	G	T	G	A	A	G	C	A	G	T	T	C	T	A	T	G	A	C	C	A	G	G	C	C	T	T	C	A	G	C	A	A	G	C	T	G	T	G	A	T	G	S	A	T	G	A	T	G	C	C	A	A	C	A	A	T	G	C	C	A	A	G	G	C	80
Homo	A	T	C	G	C	C	A	A	G	G	A	T	G	T	G	A	A	G	C	A	G	T	T	C	T	A	T	G	A	C	C	A	G	G	C	C	T	T	C	A	G	C	A	A	G	C	T	G	T	G	A	T	G	S	A	T	G	A	T	G	C	C	A	A	C	A	A	T	G	C	C	A	A	G	G	C	80

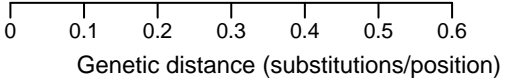
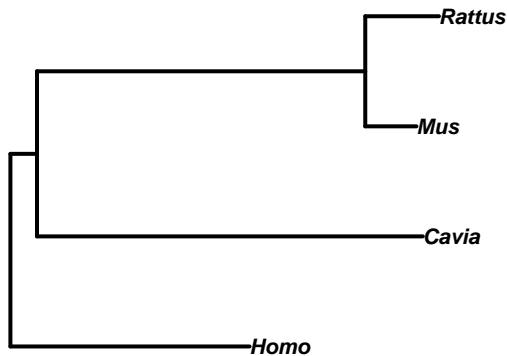
Mus	T	G	T	G	G	T	G	A	A	G	A	C	T	T	C	C	A	T	G	A	G	A	C	G	105
Rattus	A	G	T	G	G	T	G	A	A	G	A	C	T	T	C	C	A	T	G	A	G	A	C	G	105
Cavia	T	G	T	G	G	T	G	A	A	G	A	C	T	T	C	C	A	T	G	A	G	A	C	G	105
Homo	T	G	T	G	G	T	G	A	A	G	A	C	T	T	C	C	A	T	G	A	G	A	C	G	105

ENSMUSG00000037706 exon 6 (ORF 0)

Mus	C	T	C	A	A	C	T	G	T	T	G	T	G	G	C	T	C	C	A	A	G	C	A	C	T	G	A	C	C	A	C	A	C	C	A	T	A	C	T	G	A	G	G	A	A	C	A	G	C	C	T	G	T	C	C	C	T	C	A	G	G	C	G	C	A	A	80
Rattus	C	T	C	A	A	C	T	G	T	T	G	T	G	G	C	T	C	C	A	A	T	A	C	G	T	G	A	C	C	A	C	C	G	T	G	C	T	G	A	G	G	A	A	C	A	G	C	C	T	G	T	C	C	C	T	C	A	A	G	C	A	A	80				
Cavia	C	T	C	A	A	C	T	G	T	T	G	T	G	G	C	T	C	C	A	A	C	A	C	A	T	G	A	T	G	C	G	T	G	C	T	G	A	G	G	A	A	C	A	A	G	C	C	T	G	T	C	C	A	T	C	G	G	C	A	C	G	C	80				
Homo	C	T	T	G	A	C	T	G	C	T	G	T	G	G	C	T	C	C	A	G	C	A	C	A	T	G	A	T	G	C	G	T	G	C	T	G	A	G	G	A	A	C	A	A	T	T	G	T	C	C	C	T	C	G	G	G	C	A	A	80							

Mus	C	A	T	A	C	C	C	C	T	T	A	C	T	G	A	G	102					
Rattus	C	T	C	A	T	T	C	A	C	T	C	M	G	C	T	T	G	A	G	102		
Cavia	C	T	T	C	A	T	A	A	A	T	A	C	C	T	T	A	T	G	A	G	102	
Homo	C	A	T	C	A	T	C	A	G	C	A	A	C	T	T	C	T	T	G	A	G	102

ENSMUSG00000037706_intron_5



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Mus      G T A T A G C - - - T A G G C T C A A G C A S - G A G G G A G G C T G T G G G T T C T A G T G T G A G G G C A T G G T C T C C T T T C - - - - - T T C C A A C A C A A C A S G G C C T A G G A A - - - 94
Rattus  G T A G A G D - - - T A A G C T G G A G C A G - G A G G G C A G G T T G T G G G - - - - - G T G T G T G G G G C A T G A G T G C C A G A T C - - - - - T C T - - - - - G T A A C A A G A C C T G G G A A - - - 82
Cavia   G T C T G C C T G G C T G G G C T A G G C A C A G G G A T G G C T A C A G A C C A G C T G G G T G G G T G T G C T C T T G G A G C A G T C C T G C C T C A G C C C A G A C C T C A G A T G T G 110
Homo    G T G C C G G - - - - - G C C G G G G G G A G G G G G G G G A G C A G G G C C C G G G A A C C C G G G G G T T G T G T G T G C T G T G G A T G A A T C C T G G C T A G G C C A G A C C T C A G A G C A G 102

Mus      - - - - - A G G T C T C C - - - - - T C T A T G A T T T G T G G T C C T C A G G T A G G A A T C T A A T G G G C C T C A T T T C C C A G G G T T T G A A G G A A C A G G C T G C T G T G C A 183
Rattus  - - - - - A G T T C T C C - - - - - T C T A T G A T T - - - - - A G A T G C C C A G S T A C C A A T C T A A T S G G C C T G G T T T C C G A G G G T T T G A A G G A A T G G A C T T G T S G C A 169
Cavia   T C T A T G T A G A G G G C T C C - - - - - T C T A T G A C T - - - - - T A G T T G T A G T G G A A C T G T T G A A C C T G C C A - - - - - C T G G C T T - - - - - G T C T G A G C A 189
Homo    G A G G T G C C C T T G G A C T C C A A G G A C C C T G G T C T C A A C T - - - - - G G T C C T G G G T G G A A C C T A C T G G G C C A G G C T G C C C A G G C T G C G S A A A G - - - - - C T C T G A G C A 200

Mus      G G T G A C A A A C A G G C C A G A A G - - - - - G A C A A C T C C A A G T G - - - - - T A T T T T G G G T G A C G G T G T G C T G T G T G C C - - - - - T G A T C T T T C C C T T - - - - - G 262
Rattus  G G T G A C A A A C A G G C C A G A A G A C A - - - - - G A C A G C T C C A A G T G T A T A T T T T G G G T A T G C T G T G C T G T G G C T - - - - - T G A T C T T T C C C T T - - - - - 252
Cavia   G T G C C T C T G G C T G G G A G A A - - - - - G G T G G C C C T G G G T G - - - - - C A G G G G A T A G - - - - - A G T G T A A T G C A G A T C T T G G C C T T T T C T T G - - - - - C C A T T T C C C T G S - - - - - 280
Homo    G C C A G C T G A G A G G A A G A A G - - - - - G C T G G C C C T G G A T G - - - - - C A T T C T G A G T G - - - - - G G A G C G C T G C T A C C C T G G C A C C T C C C G A T G G G T T C C C T A G A G C C A C C G T C C 303

Mus      T C T C C T G A G C T C C A A G C T G A C A G T G T T G T T C T T G G T C C C T G C A G 308
Rattus  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 279
Cavia   - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 311
Homo    C C C T G G C C A C A T C C A S G C C T G A C C T T G C A C C C C T G C T C T C C A G 348

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ENSMUSG00000034853 intron 10

Description: Acyl-coenzyme A thioesterase 11 (Acot11)

Intron number: 10

Mouse chromosome: 4

Upstream exon length: 56

Downstream exon length: 67

Mouse intron length: 1165

Intron alignment length: 1472

Total murinae branch length: 0.17427

K_score: 0.08549

Scaling factor: 0.61374

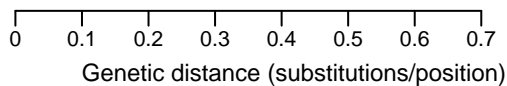
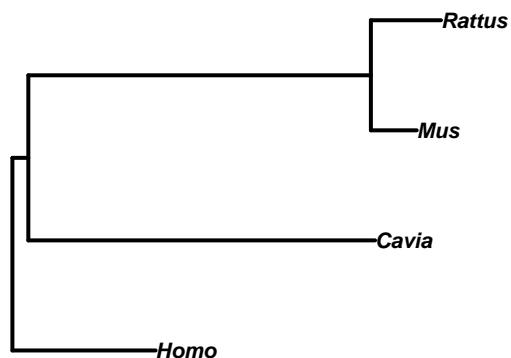
ENSMUSG00000034853 exon 10 (ORF 0)

Mus	GATGGGTGAACGGCCGATACCGAGAAAGCCAGTGCCAGGAAGAAGATCCGGCCTGGACAG	- - -	56
Rattus	GATGGGTGAACGGCCGATACCGAGAAAGCCAGTGCCAGGAAGAAGATCCGGCCTGGACAG	GCGA	60
Cavia	GATGGGTGAACGGCCGATACCGAGAAAGCCAGTGCCAGGAAGAAGATCCGGCCTGGACAG	- - -	56
Homo	GATGGGTGAACGGCCGATACCGAGAAAGCCAGTGCCAGGAAGAAGATCCGGCCTGGACAG	- - -	56

ENSMUSG00000034853 exon 11 (ORF 1)

Mus	GAAATACCTTGTGTCCTGTAAAGCAGGCAGAAAGTGGCCCTGTCTGTCCCTGGGACCCTAGCAACCA	67
Rattus	---TACCTTGTGTCCTGTAAAGCAGGCAGAAATGGCCCTGTCTGTCCCTGGGATCCTAGCAACCA	63
Cavia	GAAGTACATTGTGTCCTGCAAGCAGGCAGAAAGTGGCCCTCTCTGTGCCCTGGGACCCTAGCAACCA	67
Homo	GAAGTACATCTGTGTCCTGTAAAGCAGACAGAGGTGCCCTCTCTGTCCCTGGGACCCTAGCAACCA	67

ENSMUSG00000034853_intron_10



Mus Rattus Cavia Homo
G T G G G T G G G C C T G G G C A G T G G G A G G C C G T A C T T C A G G G C T G C T G C A C C T G C T G C C C T G A G A C A G T C T T C A G G A A T C C T C C T G G A C T 90
G T G G G C T G G G C T G T G G G A G G G A C C G T T C A G G G C T G T T C A G C T G C T G C C C A G G C A T T C T T C A G G A A T C C T C C A G G C T C A G T A A T G G C C 97
G T G A G T G G G A T G G A T G G G A G G A A T T G T G A T T C G G G C T G T G T T T C T G G A G A C T G A G G C A C T G C C T G G G C C G G A A T G C A T G G A G C T T G G C C T G G C C 110
G T G A G T A G G G G C G A T T G G T G G G A G A A T T G T G A T T C G G G C T G T G A C C G C C G T G A G G C A G G C A G G C T G C T T T C T T C A G A G C T G C T G G G T T G G C C C T G G C C 110

Mus Rattus Cavia Homo
T G C C T T T T C A T T C T C C T T T T A A A T T T A T T T T A T T T T T A A C A T T T A T T T A T T A T A T A G A C T A C C T A C T A C T G T T G A G A C A C A C C A G A A G A G G A C C T 151
C G G C C C T T T A C A T C C T C T C G T T T T G C T T T T A A C A C A C A C G G G T C T T T G C C C T T T A G C A G G C C T G A C A C A C A C G G C A G G A T T G 148
C G G C C C T T T A C A T C C T C T C G T T T T G C T T T T A A C A C A C A C G G G T C T T T G C C C T T T A C A C A C A G A G G A C C T 184

Mus Rattus Cavia Homo
A G A T C C A T T A T G A T G G T T G T G A G C C A C C A T G T G T T G C G G G A T T G A A C T C A G G A C C T T G G A A G A G A C A C T A G T T T T A A C C G C T G A G T C A C T T T C C A G C C T 258
A G A T C C A T T A C A G A T G T T G T G A G C C A C C A T G T G T T G C T G G A T T T G A A C T C A G G A C C T C T G A A G A G A G C A C T C A C T G C T T T A A C C A C T G A C C A T C T C C A G C C C 309
G T G G C A C A C A G C A G T G G G C C A G T G G C A C C A G T G G A A C T G A G C A G C A G 200
A G G C A G A G C G G G T T A G G T G C C T G C C A G G A C A C A M A T A T C A T A C C A G A C T G A A T T T G A A G T G 255

Mus Rattus Cavia Homo
C T C A T T C C T T T T A A A T T T T A T T T A T T T T G A G C A T G A T C T G A C A C T G A G C C C T G T A C C T A G G C T G G C T G G A A C T C T C T A A G T A G T T C A A G C T G G T C T T 364
. T T A A A T T T T A T T T A T T T T G A G C A T A T C T C A C A T G T C C C C T G T A C C T A G G C A G T G T G A A C T C A C T A A G T A G T T C T G C T G G T C T T 402
. G C T G A G C C A G C C C A T T A A A T G C T G T T G C A T T G G A G A G A A G C C T G A G A A A C G T T C A G A G A G G A G A T G G C T T G 270
. G C T G A G C C A G C C C A T T A A A T G C T G T T G T T G C A T T A T T C T G A T G C C C A T T T G G C A G A T G A A G A A C G T T C A G A G A G A G A T C C A G T T G T 352

Mus Rattus Cavia Homo
A A C T C T T G G A T T C C T C T G C C T C A G T C A T C T G A T T G G C C T T T G A T C C A T A G T C C T G A G T C A G A T C T 436
A A C T T T A G A T T C T C T G C C T C T C A T C T G G A T G G C C T T T G A T C C A T A G T C T G C A T A G T C T T C A G A C T 474
A G G C C T A A A T G T G T G G A C T C T G C C G C C T G A G C C C T T G C A A C T C A G C G C C T G C G A G A C T G C T G G G T G C A C A G G T G C C G T A A G T G G A A G T C A C T G A G C T A G T 380
A A G A G C T A A A G C C A C T T T G G A G A C T G G G A C A C A T C C C C T G A G T T C A G A G T 409

Mus Rattus Cavia Homo
T A G C G C C T C T A G A A C C A G G A C A C T G A G G A C A G A A G G T A G A T T C T T G T C C T C A G G A C A C A C A T T G A G T G A G A T C 514
T A G G G C T T T G T A G A C C A G G A C A C T G A G G A C A G A A G G T A G A T C T C T T G T C C T C A G G A C C G G T T G A G T G A G A T C 552
T C A G G A C C T G A G G T G A G C A G G A T T C C A G T T A A A G C C A G C T T G G G A A C T T A G T G A C T T A G T T A G G G A T T G C C C G C A A A T T C A T A G G G A C C A G C C G 487
T C A G A C T A G C C T G C C A C A T G A T G C A T T G C C A G A G A A G C C T G G G A T T A A A G T A A A A T A C A A A A A A T T A G C T G G C G 474

Mus Rattus Cavia Homo
T G T G T C C T G G C T A G T C T G G G T G A T T C G G C C A T T A C T C T C A G T G C T T T T G T A T G G C C A T G A A G G G T C A A A T C T C T G C A C T C A G G A G A G G A A G T A 617
T A G T A G T T G G T C C T G T A C T C T G A G T A C T G C T T C T T G G C C A T G A A G G G T C A A A T C T G C C A C A G C C G A G A A T G A G G T A 632
T A G T A G T T G A C A C T T G A E C C A G A A C T T T G G G A G A C A A G G A G G 634
T G T G G C T C T C C C T G T A E C C A G T G C A C C T A T A G C A G A G G C T G A G C T G A G G C A A 634

Mus Rattus Cavia Homo
A G G A T T G A C A T A A G T T C A A G C C A A C C T G G C C T A C A T A G A G A T 660
A G G A T T G C C A A A G T T T A A G G A C A A C C T G G C C T A C A T A G A G A T 675
A G A T T C A C T C T A G T T T A G G T T A C C T T G G C C T A C A T A G T T G A A T T T A A G C C T G C C T G A A C T A C A C A G T G C A 607
A G A A T C C T T G A A C G G G A C T T G A G G T T G T A G C A A G C C A G A T T G T C C A T T G C A C T C A C C C T G G G A C A G A C A G A 615

Mus Rattus Cavia Homo
A C C A T C T C A A C C A A A A T A A A T C A A T T A A A C A A A G C C C A A A A G G T C T A G A G C A T A G A C C C A A T G C C T C A A G A C A T G T A A C T G G T A T G T G T G T G T C T G A A C T G C C G C A A A G C A 770
A C C A T C T C A A C C A A A A A A A A T C A A T T A A A G A A A A C C C A A A A G G T C T A G A G C A T A G A C C C A A C C G G C T C A A A C A T G T A A C T G G T A T G T G T G T G T C T T G T A A A G T 784
C C T G T C T C A A A A A A C C A A A G A A G A A A A A A A A A A A A A C A A A A G C C A A C C G G C C A P G A A T A A A A T A A A G T A A C A A A A G A G A A G G 686
C T C T C T C A A A A T A A A T A A A T A A A T A A A A A T G A A G C A G G T G T C T G A C T C T G T T G T G A A G C 680

Mus Rattus Cavia Homo
C C T C G A G A G T G A G C A T G C T G T A G A T G C A C C A G C C T C A G A C T T G T T A T T G A A A G G A A G A C C T A C A T T T C T G G A C A T T T T C A T A G C C T A A G C A C T G 870
C C T C G A G A C T G A G G T G T T G C C G C A T T C C T G C C T C A C A C A T T A T T A T T A A T G A G A A A T G C C T T G C T T C T G A A C A T T T A C A T G C T A T C C C T G 856
G A G C A G G A A G G G A G A A G A A G G G A A A G G T G T C C A C A T T G T A C C T T G G C C T A C A T A G T T G A G A G C G T T T G C A G A G A T C A G T G C 765
A T T T A T T G G A C T T A G A G C C T G T A G G C A C A G C A G G G A T C A C A A C C T G T T G T A G T A A G A A A T G T G C A T T C T A T G C A T T T A C T G A C A T T T A C G T T G C A A G C A C T G 788

Mus Rattus Cavia Homo
T C T C C T T C A A A G C C C C T T G A A T T A G A G A C G A C A T T G S A T T C C A T T C A A A G A G A A C A C T G A G C C G T G C A A T G G G T 947
T C C T C C T T C A A A G C C C C T T G G A G G T A G A G A G A G A T T G S G T T C C A T T C A A A G C G A A C C C T G A G A A G T A C C A G G G T G G T C T 968
C A C T C C T C T G G C A G C C T T A G G C T G S T G T C T C C C C A T T T C T T A G T T C A G A C A T G G G G A A A G G G T A A A G G T G A T C A A A G G G T 854
. T T A T T G T A T T C C C A T T G A G G C A G G G T G A C T G C T A A T C C A T T T C A C A T A G A G A C A C A C C A G C C A G G G T G A G C A C T C A G C A G G G T A T T G 886

Mus Rattus Cavia Homo
C A C C G G A R C T G A G C T T G T C C C T T C C T C C A G T C C C C T G T A A C T T C C A G A C T C T A G C T O R T O T G T T C T C A C C T G C T G T G T T 1036
G S C S G A C T C A G G T T G S T C C T C A G C T G C C C T T G C C C A G C T T C C C T G T A A C T A G A C T A T A B O T G A A C T O R G T C T C T A G C C T G C T T T T G 1044
. G T A G A C T A G C C T T G C T C C C C A T T C T T A G T T C A G A C A T G G G G A A A G G G T A A A G G T G A C T C C C T A C A A G G G T A C C C T A G A C T G C T T C C T A 934
G T T G T G G A A T T G A G C C C T T A G A G C C A T A C C C T T C C T T G C T G G C T G C C C T G C A G C T T C T G A G C T A G G G C C G A G C T G G T T G C C C T A G C T G C T G T G C T 996

Mus Rattus Cavia Homo
T C T G T A C C C G T G C C C A A T G C C C T G C C A G G C A G A G T C T C A A C C C A C T G A G C T T G C A C T G G C C T G G C A A T G A T G T T T G C C A A A C A C A G T G 1128
T C T G T G C C A T T G C C C A C T G C C C A T G C C A G G C A G A G T C T C G A A C C C A C T G A G C T G C C C T G A G C T G G C A C T G A T G T C T G C C A A A C A C A G T G 1136
T C G G T G T G G G T C A C C T G A T C C C T A G C C C G A G C C C A C C C A C C C T G C C C C C C A G G C A G C A T G A G C C T T C T 1005
T C G T G A G A A T T C A G C C T C C C T A G C C A C A C A G A G T G C C C A T T G C C G G G C T C A C C A G A G G C C T A G C A G A G T A G G C T T G C A G T A G A G T C T G C A A G T G C T G 1104

Mus Rattus Cavia Homo
A A C T C T G A G A G A C C C A G G T T G T G C T C T T G C C T C T T C A G 1165
G A C T C T G A G A G A C C C A G A T T G C G T T T C C T C T T A G G A G 1177
. G C T T A G A G A C C C A G A G T G C A T T C T C G C C C A C A C A 1042
A A G T T G A G G G A C C A A G G T T G T A T C T T C T C C T T C C A G 1146

ENSMUSG00000028582 intron 17

Description: Coiled-coil and C2 domain-containing protein 1B (Cc2d1b)

Intron number: 17

Mouse chromosome: 4

Upstream exon length: 117

Downstream exon length: 74

Mouse intron length: 258

Intron alignment length: 345

Total murinae branch length: 0.25564

K_score: 0.05116

Scaling factor: 0.61914

ENSMUSG00000028582 exon 17 (ORF 1)

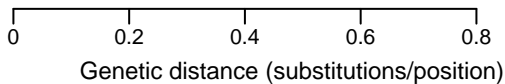
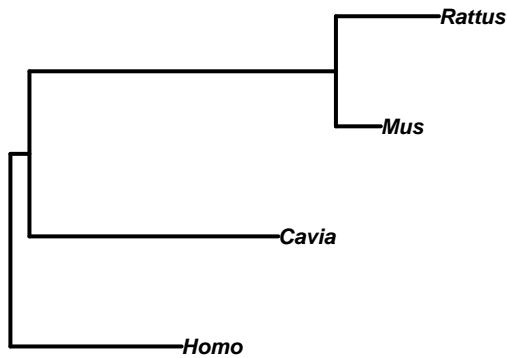
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Rattus	GTTT	GAGA	GGCTT	GCT	GAGGACC	GAAAGAAACAGCTT	GAGATCCTGCAGCTT	GGCCCAAGGCCAGGGCCTT	GACCCTCCCTA	80
Cavia	GTTT	GAGA	GGCTT	GCT	CAAGACC	GAAAGAAACAGCTT	GAGATCCTGCAGCTT	GGCCCAAGGCCAGGGCCTT	GACCCTCCCTA	80
Homo	ATT	TGAGA	GGCTT	GCT	CAGGACC	GAAAGAAACAGCTT	GAGATCCTGCAGCTT	GGCCCAAGGCCAGGGCCTT	GACCCTCCCTA	80

Mus	GTCAT	CACTTT	GAGCT	GAAGACATT	CCAGACTGTGAG	117
Rattus	GTCAT	CACTTT	GAGCT	GAAGACATT	CCAGACTGTGAG	117
Cavia	GTCAT	CACTTT	GAGCT	GAAGACATT	CCAGACTGTGAG	117
Homo	CCAC	CACTTT	GAGCT	GAAGACATT	CCAGACTGTGAG	117

ENSMUSG00000028582 exon 18 (ORF 1)

Mus	GATCTT	TCTCAGAACT	CAACAGC	CACAGAAATGCATCTGATCAT	CGTCCGGGGAATGAACCT	CCCAGCCCCGCCAG	74
Rattus	GATCTT	TCTCAGAACT	CAAT	AGCACAGAAATGCATCTGATCAT	CGTCCGGGGAATGAACCT	CCCAGCCCCGCCAG	74
Cavia	GATCTT	TCTCAGAACT	CAACAGC	CACAGAAATGCATCTGATCAT	CGTCCGGGGAATGAACCT	CCCAGCCCCGCCAG	74
Homo	GATCTT	TCTCAGAACT	CAACAGC	CACAGAAATGCATCTGATCAT	CGTCCGGGGAATGAACCT	CCCAGCCCCGCCAG	74

ENSMUSG00000028582_intron_17



Mus	G T G C C A A T G C C T A A G G G A A A C T G G C C C T G T G C A G G G C T A G G G A G G C C A G A G T T T G G A C T A G A G C C T A G A G A C T C T G C A G T C T T A G T G A G A C A C C C A G	101
Rattus	G T G C C A A T G C C T A A G G G A A T T G G C C C T G T G C A G A G A T A G G G A G G C A G C A G T T T G G A G C A G A G C C T G G A G A C T C T C A G T C T T T A T T G A G A C G T C C C A G	99
Cavia	G T G C C A A T G C C C A T G G G A A C A T A G C T C A T A T A G A C A G G C T G G A A T T G G A G C C A G G G T C T T A G C A G A C T C C C T A G	82
Homo	G T A C C A A G G C C T A G G A A C A G G E G C T C A G G C A G G A G G G C A G G A G C T T G G A G C C A G G C G A G A G A C T G C T A C C C C T T T A S T G A G C T T C C C A A G C T G G C C C	106
Mus	T A T C G T G G G T A T T G G A C T G G C G G A G C T T G C T G T C C T G C C T A T A G G A G G A C C T C A G G G T T G C A G G G T T C A G A G A C C A A G C A	182
Rattus	T G T A T G G G T G T T G A C T G C G G A A A T G C C T G C T G C T T G G A G G T A G C T C G G G T T G	159
Cavia	C A T G S T A G G C T T T G G G C T T G C T G A G G A G G A G C A T C T G C A G G G A C T T T G T G T G	138
Homo	C G C T G T G G G C A C T G G G C T T G C T G A G G A G C A C A G C T G G A T G C T A G T G G A G A G C C A C A G C T G T C T G G T G C T G G A A A G A G C T C T G G A C C A G A A C T C A G A G A T C A A G C T	216
Mus	C A A C C A G C A T G G C T C A C C T G C A A C T G T G T C C C C C T T G T C T T C T G T C T G T C T T C T G C A C T C T C T	247
Rattus	. . . . . C A G C T C C A C C C T A C A G C C T G T G C T T G G C C C T T A T C T T G T C T T G T C C T C T G C A C T C T C T	217
Cavia	. . . . . G C T G T G G C C T T C T C C T C T T T G G C C A C C C A G C T G A C A G A G C T A C T A G A G A G G C G A G G G E T T C T G C C G C T T G C T T C T A T C G A G C T C T T C T	233
Homo	C T G C A T A C C A G C T C T G C C T T C C C T C C G T C A C A C C C A G C T G G C A G A C A G C C T G A C G A A G G A C C T T G T T C C A C T A C T G T C C T T C A C T T T G A G C A T T T T C T G C T	326
Mus	T C A C T C T G T A G	258
Rattus	T C A T T C T T T C T A G	232
Cavia	T C . . . T T G G C T G A G	245
Homo	C C G C . . . T T G C C T A G	341

ENSMUSG00000030693 intron 1

Description: kallikrein related-peptidase 10 (Klk10)

Intron number: 1

Mouse chromosome: 7

Upstream exon length: 91

Downstream exon length: 184

Mouse intron length: 1110

Intron alignment length: 1852

Total murinae branch length: 0.18863

K_score: 0.04681

Scaling factor: 0.61939

ENSMUSG00000030693 exon 1 (ORF 0)

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Mus      ATGAGG GTCCCG CTCTTCCACCTCTGCACTGCCTCTGGCTCCTGGTCCCTGGTGAAGCTTCTGCTGCCGCTACTGATGGT 80
Rattus  ATGAGG GTCCCG CTCTTCCACCTCTGCACTGCCTCTGGCTCCTGGTCCCTGGTGAAGCTTCTGCTGCCGCTACTGATGGT 80
Cavia   ATGAGACCCCTTGCACCTCTGCACTGCCTCTGGCTCCTGGTCCCTGGTGAAGCTTCTGCTGCCGCTACTGATGGT 80
Homo    ATGAGAGCTCCGCACTCTGCACTGCCTCTGGCTCCTGGTCCCTGGTGAAGCTTCTGCTGCCGCTACTGATGGC 77

Mus      GCAACTCTGGG 91
Rattus  GCAACTCTGGG 91
Cavia   GCAACTCTGGG 91
Homo    GCAACTCTGGG 88
    
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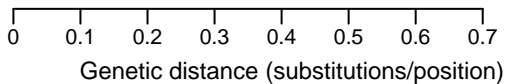
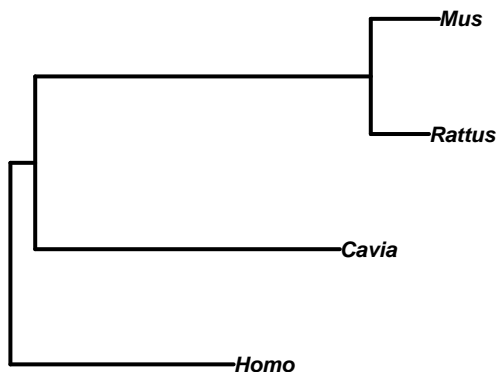
ENSMUSG00000030693 exon 2 (ORF 2)

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Mus      GGGGCAGGCTCTGCTGCTCCCGGSAAAACGCCACGCCCGTGGACCTCGAGGGCCTCCGGGGGC-----CCAGTGGAG 71
Rattus  GGGGCAGGCTCTGCTGCTCCCGGSAAAACGCCACGCCCGTGGACCTCGAGGGCCTCCGGGGGC-----TCTGTGGCTCG 71
Cavia   TCCGGGAGCGG--GCAAGCTGGCTGAAAACCTGACGGCCGTGGACATCAAGGACTCCAGCTCTGGTGAAGTCCCTGTGTCC 77
Homo    CCGGAGAGGGCGGCTGCTCCCGCAAAAACGATCACGGCGTTGGACCGCGAAGCCTATGGCTC-----CCGGTGGCG 71

Mus      CGTGACTATCATCCCTGGCAGGTCTCCCTCTTCCATAACCTCCAGTTCCAATGTGCGGGGTGTCTCTGGTGGACCAGAACTG 151
Rattus  AGTGTCTCTCAAACCTGGCAGGTCTCCCTCTTCCATAACCTCCAGTTCCAATGTGCGGGGTGTCTCTGGTGGACCAGAACTG 151
Cavia   GACGGCTCGCAGCCCTGGCAGGTCTCCCTCTTCAATGGCCTCAGATTCCACTGCGGGGGCGTGTCTGGTGGACCAGAACTG 157
Homo    CGCGGCTCGCAGCCCTGGCAGGTCTGCTCTTCAACGGCCTCTCGTTCACACTGCGGGGGTGTCTCTGGTGGACCAGAACTG 151
    
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ENSMUSG00000030693_intron_1



ENSMUSG00000026354 intron 16

Description: lactase (Lct)
 Intron number: 16
 Mouse chromosome: 1
 Upstream exon length: 231
 Downstream exon length: 218
 Mouse intron length: 1119
 Intron alignment length: 1614
 Total murinae branch length: 0.22392
 K_score: 0.03662
 Scaling factor: 0.62672

ENSMUSG00000026354 exon 16 (ORF 2)

Mus	GGCTTTCG	CAGAGAGG	TTGGG	GTGCACT	TTTGTGA	ACC	GGCT	CTGACC	CTTCTTT	GGCC	AAGG	ATCC	CCCA	AGGCG	TCAG	CCAA	80
Rattus	GGCTTTCG	CAGAGAGG	TTGGG	GTGCACT	TTTGTGA	ACC	GGCT	CTGACC	CTTCTTT	GGCC	AAGG	ATCC	CCCA	AGGCG	TCAG	CCAA	80
Cavia	GGCTTTCG	CAGAGAGG	TTGGG	GTGCACT	TTTGTGA	ACC	GGCT	CTGACC	CTTCTTT	GGCC	AAGG	ATCC	CCCA	AGGCG	TCAG	CCAA	80
Homo	GGCTTTCG	CAGAGAGG	TTGGG	GTGCACT	TTTGTGA	ACC	GGCT	CTGACC	CTTCTTT	GGCC	AAGG	ATCC	CCCA	AGGCG	TCAG	CCAA	80

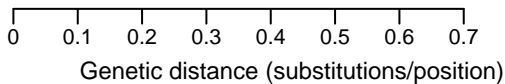
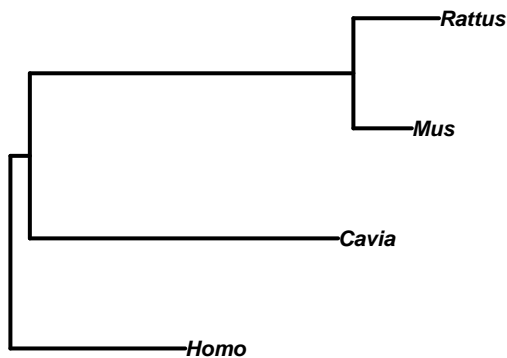
Mus	GGTCTAC	GGCCTC	CAATAG	TCCG	CTGCAAT	GGCTTT	CTGACC	CTGCACA	AAGGAC	CTCAT	CCTT	GTCT	CCAG	CAACC	AAG	160
Rattus	GTTCTAT	GCCACC	ATGCT	CCGCT	GCAAT	GGCTTT	CTGACC	CTGCACA	AAGGAC	CTCAT	CCTT	GTCT	CCAG	CAACC	AAG	160
Cavia	GTTCTAT	GCCACC	ATGCT	CCGCT	GCAAT	GGCTTT	CTGACC	CTGCACA	AAGGAC	CTCAT	CCTT	GTCT	CCAG	CAACC	AAG	160
Homo	GTTCTAT	GCCACC	ATGCT	CCGCT	GCAAT	GGCTTT	CTGACC	CTGCACA	AAGGAC	CTCAT	CCTT	GTCT	CCAG	CAACC	AAG	157

ENSMUSG00000026354 exon 17 (ORF 2)

Mus	ATGCTGG	CCCCACT	GGC	CAGGC	CTGTGA	--	AGT	CAGAG	GTGCC	CTTCT	GGGG	CTGAT	GCT	GGGC	ACGG	CAGA	AGCAC	AG	77
Rattus	ATGCTGG	CCCCACT	GGC	CAGGC	CTGTGA	--	AGT	CAGAG	GTGCC	CTTCT	GGGG	CTGAT	GCT	GGGC	ACGG	CAGA	AGCAC	AG	77
Cavia	ATGCTGG	CCCCACT	GGC	CAGGC	CTGTGA	--	AGT	CAGAG	GTGCC	CTTCT	GGGG	CTGAT	GCT	GGGC	ACGG	CAGA	AGCAC	AG	77
Homo	ATGCTGG	CCCCACT	GGC	CAGGC	CTGTGA	--	AGT	CAGAG	GTGCC	CTTCT	GGGG	CTGAT	GCT	GGGC	ACGG	CAGA	AGCAC	AG	80

Mus	ACGGCT	CTGTAT	GTCT	CTTT	CGCT	TTGTG	CTGCT	GCTT	GGACT	TTGC	AGCC	CTGG	CATTT	CTGT	ATACA	AATA	CTGCA	AGCC	157
Rattus	ACAGCT	CTGTAT	GTCT	CTTT	CGCT	TTGTG	CTGCT	GCTT	GGACT	TTGC	AGCC	CTGG	CATTT	CTGT	ATACA	AATA	CTGCA	AGCC	157
Cavia	ACAGCT	CTGTAT	GTCT	CTTT	CGCT	TTGTG	CTGCT	GCTT	GGACT	TTGC	AGCC	CTGG	CATTT	CTGT	ATACA	AATA	CTGCA	AGCC	157
Homo	ACAGCT	TTGTAC	GTCT	CTTT	CGCT	TTGTG	CTGCT	GCTT	GGACT	TTGC	AGCC	CTGG	CATTT	CTGT	ATACA	AATA	CTGCA	AGCC	160

ENSMUSG00000026354_intron_16



Mus Rattus Cavia Homo
GTGAC - GTGGCTCTGGGAGGAAC - AACTGATGGGGAAGGGCAAGAGGGGCTGTTCTTCCACCAACCCACCTTCCAGCTCAGATGTTT - - - - - GCCACA 96
GTGAG - GTGGCTCTGGGAGGGACC - AGCTAAHGGGCAAGGGCAAGAGGGAACTTTT - - - - - CCGACCGACCTCCTAGTTTCAAGCTTC - - - - - GCCACA 89
GTAGC - - - - - GGCTGTGTGGGAGCCATAAAGCAAAAGGCTGAAAGGGCAAGAGGAACTTTT - - - - - CCGACCGACCTCCTAGTTTCAAGCTTC - - - - - GCCACA 92
GTGAGATGTGGCTCTGGGAGGGAAATAAAGGCTAAAGGGTGAAGGGCAAGAGGGAACTTTT - - - - - CCGACCGACCTCCTAGTTTCAAGCTTC - - - - - GCCACA 92
C110
Mus Rattus Cavia Homo
GTTTCAATGCTTTCAGTCTG - - - - - TTAGCAAGCTGGCTCCAA - - - - - GGCTCTGTTAGGGCTCGGGCTTGGTGTTCAGTAGAGACCGGGGCTCG 171
GTTTCAATGCTTTCAGTCTG - - - - - TTAGCAAGCTGGCTCCAA - - - - - GGCTCTGTTAGGGCTCGGGCTTGGTGTTCAGTAGAGACCGGGGCTCG 181
CCCTTCCATTCAATCAACAAGATT - - - - - TCTGTGAGTCTCCAGACATTTCTTGAAGTAAAGGAGGTTAGGCAGGGGATGTACACACTGGGAGCTAGGA - - - - - 193
TCTTCCATTCAATCAACAAGATT - - - - - TCTGTGAGTCTCCAGACATTTCTTGAAGTAAAGGAGGTTAGGCAGGGGATGTACACACTGGGAGCTAGGA - - - - - 220
Mus Rattus Cavia Homo
TGTAGCAATGAGGAGTTCAGATTCTCTG - - - - - CACCCTAAGTCATGTTGGCTCTTCTTGAG - - - - - GACAGATGCTTCCAGGCAGT - - - - - CACTA 260
TGTAGCAATGAGGAGTTCAGATTCTCTG - - - - - CACCCTAAGTCATGTTGGCTCTTCTTGAG - - - - - GACAGATGCTTCCAGGCAGT - - - - - CACTA 273
TGTAGCAATGAGGAGTTCAGATTCTCTG - - - - - CACCCTAAGTCATGTTGGCTCTTCTTGAG - - - - - GACAGATGCTTCCAGGCAGT - - - - - CACTA 243
CCCTTCCATTCAATCAACAAGATT - - - - - TCTGTGAGTCTCCAGACATTTCTTGAAGTAAAGGAGGTTAGGCAGGGGATGTACACACTGGGAGCTAGGA - - - - - 320
Mus Rattus Cavia Homo
GGTCAAGTCAAGAGGACTAGAAACACATGGGGCTG - - - - - GTACTGGCTGGGGTGAATAAGAAATATAAATGACTATGAAAAATACAA - - - - - GACCATTA 350
GGTCAAGTCAAGAGGACTAGAAACACATGGGGCTG - - - - - GTACTGGCTGGGGTGAATAAGAAATATAAATGACTATGAAAAATACAA - - - - - GACCATTA 362
GGTCAAGTCAAGAGGACTAGAAACACATGGGGCTG - - - - - GTACTGGCTGGGGTGAATAAGAAATATAAATGACTATGAAAAATACAA - - - - - GACCATTA 309
GGTCAAGTCAAGAGGACTAGAAACACATGGGGCTG - - - - - GTACTGGCTGGGGTGAATAAGAAATATAAATGACTATGAAAAATACAA - - - - - GACCATTA 427
Mus Rattus Cavia Homo
CCAAATTCAGGATGAAATTTAGTTCGCCAAG - - - - - TGAAGCTTAAAAACAGGCTAGGG - - - - - CTGTGCTATGGCTGTGGTGTGGCT 410
CCAAATTCAGGATGAAATTTAGTTCGCCAAG - - - - - TGAAGCTTAAAAACAGGCTAGGG - - - - - CTGTGCTATGGCTGTGGTGTGGCT 444
CCAAATTCAGGATGAAATTTAGTTCGCCAAG - - - - - TGAAGCTTAAAAACAGGCTAGGG - - - - - CTGTGCTATGGCTGTGGTGTGGCT 419
CCAAATTCAGGATGAAATTTAGTTCGCCAAG - - - - - TGAAGCTTAAAAACAGGCTAGGG - - - - - CTGTGCTATGGCTGTGGTGTGGCT 522
Mus Rattus Cavia Homo
CTCAGTGGTGGGAGCTCAGTTCAGTGTGACGAGTGTGGTGGTCTCA - - - - - ATACCTAGCCACATACAAAAGG - - - - - GGATACGATAGCACACCCCTTAATCTTTTTTTTATGTTGGAT 481
CTCAGTGGTGGGAGCTCAGTTCAGTGTGACGAGTGTGGTGGTCTCA - - - - - ATACCTAGCCACATACAAAAGG - - - - - GGATACGATAGCACACCCCTTAATCTTTTTTTTATGTTGGAT 543
CTCAGTGGTGGGAGCTCAGTTCAGTGTGACGAGTGTGGTGGTCTCA - - - - - ATACCTAGCCACATACAAAAGG - - - - - GGATACGATAGCACACCCCTTAATCTTTTTTTTATGTTGGAT 461
CTCAGTGGTGGGAGCTCAGTTCAGTGTGACGAGTGTGGTGGTCTCA - - - - - ATACCTAGCCACATACAAAAGG - - - - - GGATACGATAGCACACCCCTTAATCTTTTTTTTATGTTGGAT 564
Mus Rattus Cavia Homo
TTTTTTTATTTACATTTCAAATGTTATTCCGTTTTCCGAGTTTTGTGGAGATAAAGTCCGCTCCCTTCTTCTATAAGGGTGTGCCCTCCCGATCCGTCGCCCTTCCCGCC 481
TTTTTTTATTTACATTTCAAATGTTATTCCGTTTTCCGAGTTTTGTGGAGATAAAGTCCGCTCCCTTCTTCTATAAGGGTGTGCCCTCCCGATCCGTCGCCCTTCCCGCC 461
TTTTTTTATTTACATTTCAAATGTTATTCCGTTTTCCGAGTTTTGTGGAGATAAAGTCCGCTCCCTTCTTCTATAAGGGTGTGCCCTCCCGATCCGTCGCCCTTCCCGCC 564
Mus Rattus Cavia Homo
CCCCCCACAGTCCCTACACTGGGGGGTCCAGCCTTGGCAGGACCAAGGGCTTCTCCTCCCACTGATGCCCAACAAGGCCACCCTCTGCTACCTATGTGACTGGAGCCATGG 481
CCCCCCACAGTCCCTACACTGGGGGGTCCAGCCTTGGCAGGACCAAGGGCTTCTCCTCCCACTGATGCCCAACAAGGCCACCCTCTGCTACCTATGTGACTGGAGCCATGG 763
CCCCCCACAGTCCCTACACTGGGGGGTCCAGCCTTGGCAGGACCAAGGGCTTCTCCTCCCACTGATGCCCAACAAGGCCACCCTCTGCTACCTATGTGACTGGAGCCATGG 461
CCCCCCACAGTCCCTACACTGGGGGGTCCAGCCTTGGCAGGACCAAGGGCTTCTCCTCCCACTGATGCCCAACAAGGCCACCCTCTGCTACCTATGTGACTGGAGCCATGG 564
Mus Rattus Cavia Homo
GTGAGTCCATGTGTGCTTTGACACCCCTGTA - - - - - ATCTAAGCACTTAAAGGAGAAAGCACTAGGTTTGA - - - - - AGTTTCAAGTCAAGCAGTGGCTCCCTG 546
GTGAGTCCATGTGTGCTTTGACACCCCTGTA - - - - - ATCTAAGCACTTAAAGGAGAAAGCACTAGGTTTGA - - - - - AGTTTCAAGTCAAGCAGTGGCTCCCTG 860
GTGAGTCCATGTGTGCTTTGACACCCCTGTA - - - - - ATCTAAGCACTTAAAGGAGAAAGCACTAGGTTTGA - - - - - AGTTTCAAGTCAAGCAGTGGCTCCCTG 532
GTGAGTCCATGTGTGCTTTGACACCCCTGTA - - - - - ATCTAAGCACTTAAAGGAGAAAGCACTAGGTTTGA - - - - - AGTTTCAAGTCAAGCAGTGGCTCCCTG 624
Mus Rattus Cavia Homo
CTAGCTAGAGGGCCGCTTCAAGAGAAAAGGAGATATGGTTTGGTGGGGCAGCTG - - - - - AATGGCTCAGAGGTAAGAGCACTATGG - - - - - ATAGGATCAATACAGAAACCA 655
CTAGCTAGAGGGCCGCTTCAAGAGAAAAGGAGATATGGTTTGGTGGGGCAGCTG - - - - - AATGGCTCAGAGGTAAGAGCACTATGG - - - - - ATAGGATCAATACAGAAACCA 938
CTAGCTAGAGGGCCGCTTCAAGAGAAAAGGAGATATGGTTTGGTGGGGCAGCTG - - - - - AATGGCTCAGAGGTAAGAGCACTATGG - - - - - ATAGGATCAATACAGAAACCA 569
CTAGCTAGAGGGCCGCTTCAAGAGAAAAGGAGATATGGTTTGGTGGGGCAGCTG - - - - - AATGGCTCAGAGGTAAGAGCACTATGG - - - - - ATAGGATCAATACAGAAACCA 670
Mus Rattus Cavia Homo
AAATAGATTCCTGAAAGCTGCTTCCAATTCACAAAGCATCATGTTATGCAGTACACATATAAAAAACAAATTAATAAAACCAAACCAACAGGCTGGTGGATGGTCT 765
AAATAGATTCCTGAAAGCTGCTTCCAATTCACAAAGCATCATGTTATGCAGTACACATATAAAAAACAAATTAATAAAACCAAACCAACAGGCTGGTGGATGGTCT 1027
AAATAGATTCCTGAAAGCTGCTTCCAATTCACAAAGCATCATGTTATGCAGTACACATATAAAAAACAAATTAATAAAACCAAACCAACAGGCTGGTGGATGGTCT 610
TGAATAGATTCCTGAAAGCTGCTTCCAATTCACAAAGCATCATGTTATGCAGTACACATATAAAAAACAAATTAATAAAACCAAACCAACAGGCTGGTGGATGGTCT 777
Mus Rattus Cavia Homo
AGGCAGTAAAGCAGCTACTGCTCTTCAAAAGGCTCTGAGTTCAAAATCCAGCAACCACATGATGGCTCACAAACCATCTATAATGAGATCTGATGCCCTCTTCTGATGGG 875
AGGCAGTAAAGCAGCTACTGCTCTTCAAAAGGCTCTGAGTTCAAAATCCAGCAACCACATGATGGCTCACAAACCATCTATAATGAGATCTGATGCCCTCTTCTGATGGG 1027
AGGCAGTAAAGCAGCTACTGCTCTTCAAAAGGCTCTGAGTTCAAAATCCAGCAACCACATGATGGCTCACAAACCATCTATAATGAGATCTGATGCCCTCTTCTGATGGG 646
AGGCAGTAAAGCAGCTACTGCTCTTCAAAAGGCTCTGAGTTCAAAATCCAGCAACCACATGATGGCTCACAAACCATCTATAATGAGATCTGATGCCCTCTTCTGATGGG 821
Mus Rattus Cavia Homo
TCTGAAAGCAGCTACATACATTGTACTTATGATAAATAAATAAATCTTTAAACAAACAGGAGCAACAAACAGCAG - - - - - 953
TCTGAAAGCAGCTACATACATTGTACTTATGATAAATAAATAAATCTTTAAACAAACAGGAGCAACAAACAGCAG - - - - - 1046
TCTGAAAGCAGCTACATACATTGTACTTATGATAAATAAATAAATCTTTAAACAAACAGGAGCAACAAACAGCAG - - - - - 701
TCTGAAAGCAGCTACATACATTGTACTTATGATAAATAAATAAATCTTTAAACAAACAGGAGCAACAAACAGCAG - - - - - 878
Mus Rattus Cavia Homo
CAGTCAAGGGGACCCATGCCAACACCCACAGCCTAGGAGCTTGTCTTCTGTCTATGTTTGGGGTGTACTATAAGCCCTCGGACCCGACGAGCC - - - - - AGCAGGACTTTT 1061
CAGTCAAGGGGACCCATGCCAACACCCACAGCCTAGGAGAGCTTGTCTTCTGTCTATGTTTGGGGTGTACTATAAGCCCTCGGACCCGACGAGCC - - - - - AGCAGGACTTTT 1152
CAGTCAAGGGGACCCATGCCAACACCCACAGCCTAGGAGAGCTTGTCTTCTGTCTATGTTTGGGGTGTACTATAAGCCCTCGGACCCGACGAGCC - - - - - AGCAGGACTTTT 801
CAGTCAAGGGGACCCATGCCAACACCCACAGCCTAGGAGAGCTTGTCTTCTGTCTATGTTTGGGGTGTACTATAAGCCCTCGGACCCGACGAGCC - - - - - AGCAGGACTTTT 955
Mus Rattus Cavia Homo
TCCAGACCA - - - - - GCTGCTGCT - - - - - AACAGTCTAGAGGCTGAGCCCTCC - - - - - ATTGCTTTTCTCTAG 1119
TCCAGACCA - - - - - GCTGCTGCT - - - - - AACAGTCTAGAGGCTGAGCCCTCC - - - - - ATTGCTTTTCTCTAG 1209
TCCAGACCA - - - - - GCTGCTGCT - - - - - AACAGTCTAGAGGCTGAGCCCTCC - - - - - ATTGCTTTTCTCTAG 875
TCCAGACCA - - - - - GCTGCTGCT - - - - - AACAGTCTAGAGGCTGAGCCCTCC - - - - - ATTGCTTTTCTCTAG 1026

ENSMUSG00000040680 intron 2

Description: Kremen protein 2 Precursor (Kremen2)

Intron number: 2

Mouse chromosome: 17

Upstream exon length: 175

Downstream exon length: 92

Mouse intron length: 698

Intron alignment length: 1243

Total murinae branch length: 0.27735

K_score: 0.03133

Scaling factor: 0.62814

ENSMUSG00000040680 exon 2 (ORF 2)

Mus	TCCAGGTGAA	C	GGCGCTGACTACCGA	GGCCACCAGAACTACACCGGCCACGGSSAGCTGGACGGCC	TTGTCTTTTCTGG	80
Rattus	TCCAGGTGAA	C	GGCGCTGACTACCGG	GGCCACCAGAACTACACCGGCCACGGSSAGCTGGACGGCC	TTGTCTTTTCTGG	80
Cavia	TCCAGGTGAA	T	GGCGCTGACTACCGT	GGCCACCAGAACTACACCGGCCACGGSSAGCTGGACGGCC	TTGTCTTTTCTGG	80
Homo	TCCAGGTGAA	T	GGCGCTGACTACCGGG	GGCCACCAGAACTACACCGGCCACGGSSAGCTGGACGGCC	TTGTCTTTTCTGG	80

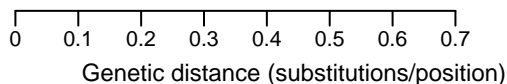
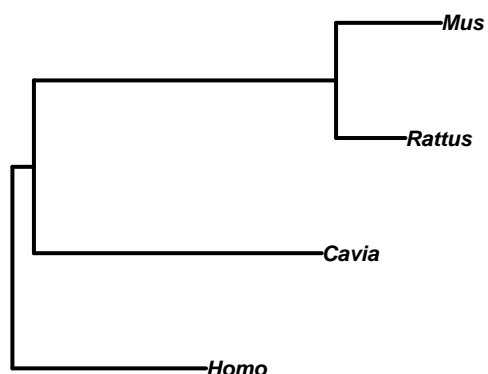
Mus	GACCAGACACAGCAGCAGCTACAGCAGCGCCAGCGACCC	TCAGGGCCGCTGGGGCT	GGGTGCGCATAACTTCTGTA	CG	160
Rattus	GACCAGACG	CAGCAGCAGCTACAGCAGCGCCAGCGACCC	TCAGGGCCGCTGGGGCT	GGGTGCGCATAACTTCTGTA	CG
Cavia	GACCAGACACAGCAGCAGCTACAGCAGCGCCAGCGACCC	TCAGGGCCGCTGGGGCT	GGGTGCGCATAACTTCTGTA	CG	160
Homo	GACCAGACG	CAGCAGCAGCTACAGCAGCGCCAGCGACCCCA	CGGCCGCTGGGGCT	GGGTGCGCATAACTTCTGTA	CG

ENSMUSG00000040680 exon 3 (ORF 1)

Mus	GAACCCAGACGGT	GATGTGCAGCCCTGGTGCTAC	GTGCCAGAGACAGAAGAGGGCATCTACTGGCGCTACTGTGATATCC	80
Rattus	GAACCCG	GACGGCGATGTGCAGCCCTGGTGCTATGTGCCAGAGACAGAAGAAGGCATCTACTGGCGCTACTGTGATATCC	80	
Cavia	GAACCCAGAT	GGTGTGTGCAGCCATGGTGCTATGTGCCAGAGACAGAAGAGGGCATCTACTGGCGTTATTGTGATATCC	80	
Homo	TAACCCAGACGGT	GACGTGCAGCCGTGGTGCTAC	GTGCCAGAGACAGAAGAGGGCATCTACTGGCGCTACTGTGATATCC	80

Mus	CCACATGTCACA	92
Rattus	CCACGTGTCACA	92
Cavia	CCACATGTCACA	92
Homo	CCTCTGTCACA	92

ENSMUSG00000040680_intron_2



ENSMUSG00000027513 intron 1

Description: Phosphoenolpyruvate carboxykinase, cytosolic (Pck1)

Intron number: 1

Mouse chromosome: 2

Upstream exon length: 224

Downstream exon length: 182

Mouse intron length: 322

Intron alignment length: 443

Total murinae branch length: 0.21718

K_score: 0.04625

Scaling factor: 0.63141

ENSMUSG00000027513 exon 1 (ORF 0)

Mus	GCCTGCCCCAGGCAGT	GAGGAAGTTT	GTGGAAAG	GSCAATGCT	CAGCTGTG	CCAGCCG	GGAGTATAT	CCACATCT	GCGATGGG	80
Rattus	GCCTGCCCCAGGCAGT	GAGGAAGTTT	GTGGAAAG	GSCAATGCT	CAGCTGTG	CCAGCCG	GGAGTATAT	CCACATCT	GCGATGGG	80
Cavia	GCCTGCCCCAGGCAGT	GAGGAAGTTT	GTGGAAAG	GSCAATGCT	CAGCTGTG	CCAGCCG	GGAGTATAT	CCACATCT	GCGATGGG	80
Homo	GCCTGCCCCAGGCAGT	GAGGAAGTTT	GTGGAAAG	GSCAATGCT	CAGCTGTG	CCAGCCG	GGAGTATAT	CCACATCT	GCGATGGG	80

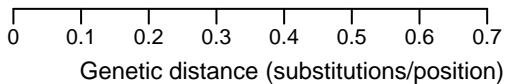
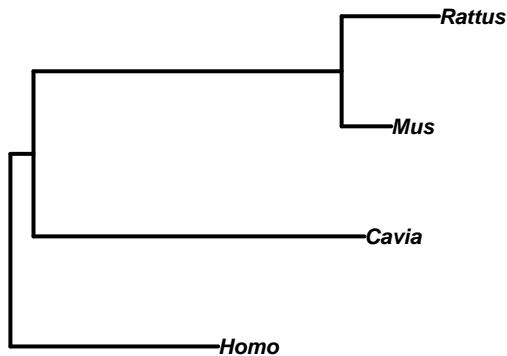
Mus	TCCGAGGAGGAGT	ACGGGCA	GTGGTGGCC	CACATGC	AGGAGGGGT	GTCATCC	GCAAGCT	GAAGAAAT	TGACAACT	160
Rattus	TCCGAGGAGGAGT	ACGGGCA	GTGGTGGCC	CACATGC	AGGAGGGGT	GTCATCC	GCAAGCT	GAAGAAAT	TGACAACT	160
Cavia	TCCGAGGAGGAGT	ACGGGCA	GTGGTGGCC	CACATGC	AGGAGGGGT	GTCATCC	GCAAGCT	GAAGAAAT	TGACAACT	160
Homo	TCCGAGGAGGAGT	ACGGGCA	GTGGTGGCC	CACATGC	AGGAGGGGT	GTCATCC	GCAAGCT	GAAGAAAT	TGACAACT	160

ENSMUSG00000027513 exon 2 (ORF 1)

Mus	TTGGCTGGCTCT	CAC	TGACCCD	TGAGATGT	GGCCAGGAT	CGAAAGCA	AGACAGT	CATCAT	CACCCAAGAGCA	GAGAGACA	80
Rattus	TTGGCTGGCTCT	CAC	TGACCCD	TGAGATGT	GGCCAGGAT	CGAAAGCA	AGACAGT	CATCAT	CACCCAAGAGCA	GAGAGACA	80
Cavia	TTGGCTGGCTCT	CAC	TGACCCD	TGAGATGT	GGCCAGGAT	CGAAAGCA	AGACAGT	CATCAT	CACCCAAGAGCA	GAGAGACA	80
Homo	TTGGCTGGCTCT	CAC	TGACCCD	TGAGATGT	GGCCAGGAT	CGAAAGCA	AGACAGT	CATCAT	CACCCAAGAGCA	GAGAGACA	80

Mus	CAGTGGCCAT	CCCCAAA	ACTGGCCT	CAGCCAGCT	GGG	CCCTGGAT	GTCG	GAAGAGG	ACTT	GAGAAAG	CATTCA	160
Rattus	CAGTGGCCAT	CCCCAAA	ACTGGCCT	CAGCCAGCT	GGG	CCCTGGAT	GTCG	GAAGAGG	ACTT	GAGAAAG	CATTCA	160
Cavia	CAGTGGCCAT	CCCCAAA	ACTGGCCT	CAGCCAGCT	GGG	CCCTGGAT	GTCG	GAAGAGG	ACTT	GAGAAAG	CATTCA	160
Homo	CAGTGGCCAT	CCCCAAA	ACTGGCCT	CAGCCAGCT	GGG	CCCTGGAT	GTCG	GAAGAGG	ACTT	GAGAAAG	CATTCA	160

ENSMUSG00000027513_intron_1



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Mus      G T G A G T C C C C T C A G C C C T A A C T C T C T G C C C A C A G C C T C . . . . . C T T A A C T A C T T C T T A C G T T . . . . . T G G A G A T G A A G A C C T T . . . G C G G T A G C A 88
Rattus  G T G A G T C C C T T C A G C C C A A A G T C T C T G G C C T A C A G G C T G . . . . . C T C A G C T C T A G C T T C T C G G A G T C . . . . . T G G A G A A T A A G A C C C T T . . . G C A G T A G C A 89
Cavia   G T G A G T T C G . . . . . A T C C T C C C A G C C G T T C T G G T G T T G G T G G . . . . . G G G T G A T G G G A C C A . . . . . A . . . . . A 92
Homo    G T A A G . . . . . C T C G G C C C C G C T G C C T G C C A G C A C C C T G C A G G A G G G C T G C C G T G C T C T G G G A T T G G T G G A G A A A G G T G A A T G A A G G C C T T C G G G T A G T T T C A 106

Mus      A A C A C C T G A G A A G C T T A A G A G A T . . . . . G C C C T G T G A G C T T A G C A T A G C C A G C C . . . . . 137
Rattus  A A C G C C T G A C A A G C T T A G G A G A T C A G T C A G A A T G C A G A C . . . . . A G C C T G T G A G C T T A G C A T A G C C A G C T . . . . . 154
Cavia   A C T G T T T G A A A A G C A G A A G . . . . . A G C C A C A A G C T T C A C A G A G T T G C C G T A C T T A A A T C A G G T G T G T C A C A A A A G C T G . . . . . T C C A 146
Homo    G A C T C T T G A G A A G A T G A A T G C A A T G T C A G A A C C A T A C A G A C T T G A A T T T T G T G A C A T T A G T G G C C A G C C C A A C T T A A A T C A G G T G T G T C A C A A A A G C T G . . . . . T C C A 214

Mus      A C T A G A T T C T G G A T A A C T A T A C A A A G C A A C T C C T T T C C C A G G G C C A G T C A G A G T C T A G C T A A T G T C C A C C T G G T C A A G T C C G T T G T C C T T E T T . . . . . T C . . . . . 236
Rattus  T C T A G A T T C C A G A T A G C C A T G C A A G G C G C C C C T T T C C T A G G G C C A G C T C A T G C T T A G C A A A T G T C C A C C T G G T C A A G T C C G T T G G C T T G C C A T A C C T A A 262
Cavia   A A G T T G A T T C C T G A T A A A A G G A A G G C A G T C C C T G T C T C G G G G C T G C T . . . . . G G T T T G G T G A C T C C T G G T G C T G G C C A G C T G G T T G G C T A T T G C A C T G T G 251
Homo    A A C T A G A T T C C T G A T T A . . . . . A A A A A G G C A G C C C T C T C C T A C A G A C C A G C T C T A G T G G A G T A A A T G T C C A C C T G G C C A T G T C T T A G A T G G T C T G T G T T C A C A C T G A T 323

Mus      . . . . . C G C C A A G G C T T . . . . . G G A A G G A C C T G C C G T G G C C A A G A G A G G T A C A T C C C C A G G A T A C C T T G C T G A A G C A G T C C C T G T G A C T T T T T 319
Rattus  G T A A C A C G G T C A A C G T C C T T G T G T . . . . . C T G C A A G G C G . . . . . G G A A G A G C C T G A G G A G C A A G A G A G G T A C A T C C C A A G G T A C C T T G C T G A A G C A T C C C T G T G A C T T T T T 369
Cavia   G C A G T T G C G C . . . . . C T G C G G G C A G G A A G G C C T G A T T A C A G G A A G T G T C G T T G C T T A T C A G G G C C G C T A A . . . . . T S T G T T T T T G 337
Homo    G G A C T G T T G T A G C G T G C T C A G C A C T . . . . . C T G C T A G G C A T . . . . . G G A A G C A G G T A C T G A A G A G A T G G T G G T G C C G T G C T G T T G C T G A A G G A A G C C T G T G A T T T T T G 432

Mus      C A G 322
Rattus  C A G 372
Cavia   C A G 340
Homo    C A G 435

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ENSMUSG00000021609 intron 12

Description: Sodium-dependent dopamine transporter (Slc6a3)

Intron number: 12

Mouse chromosome: 13

Upstream exon length: 168

Downstream exon length: 72

Mouse intron length: 1182

Intron alignment length: 2037

Total murinae branch length: 0.18049

K_score: 0.05343

Scaling factor: 0.63212

ENSMUSG00000021609 exon 12 (ORF 0)

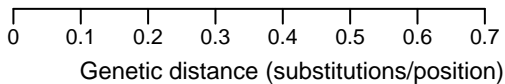
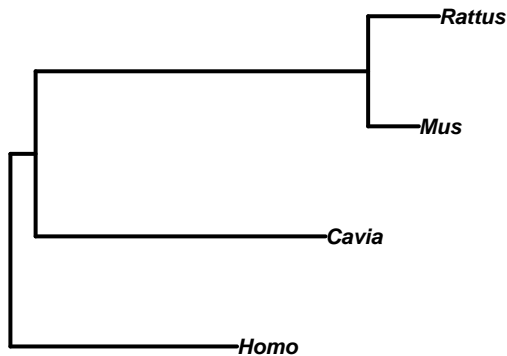
Mus	C	G	T	G	G	T	C	A	G	C	A	T	T	G	T	G	A	C	T	T	C	A	G	A	C	C	C	C	C	A	C	A	C	T	A	T	G	G	A	G	C	C	T	A	C	A	T	C	T	T	C	C	A	G	A	C	T	G	G	G	C	C	A	A	T	G	C	C	T	G	G	G	C	T	G	G	A	80
Rattus	C	G	T	G	G	T	C	A	G	C	A	T	T	G	T	G	A	C	T	T	C	A	G	A	C	C	C	C	C	A	C	A	C	T	A	T	G	G	A	G	C	C	T	A	C	A	T	C	T	T	C	C	A	G	A	C	T	G	G	G	C	C	A	A	T	G	C	C	T	G	G	G	C	T	G	G	A	80
Cavia	T	G	T	G	G	T	C	A	G	C	A	T	T	G	T	G	A	C	T	T	C	A	G	A	C	C	C	C	C	C	A	C	A	C	T	A	T	G	G	A	G	C	C	T	A	C	A	T	C	T	T	C	C	A	G	A	C	T	G	G	G	C	T	G	G	A	80											
Homo	C	G	T	G	G	T	C	A	G	C	A	T	T	G	T	G	A	C	T	T	C	A	G	A	C	C	C	C	C	A	C	A	C	T	A	T	G	G	A	G	C	C	T	A	C	A	T	C	T	T	C	C	A	G	A	C	T	G	G	G	C	T	G	G	A	80												

Mus	T	C	A	T	T	G	C	C	A	C	A	T	C	C	T	C	C	A	T	G	G	C	C	A	T	T	T	A	T	G	C	A	C	T	A	T	A	A	G	T	T	C	T	G	C	A	G	C	T	G	C	C	A	G	G	G	T	C	C	T	T	C	C	G	A	G	A	160
Rattus	T	C	A	T	T	G	C	C	A	C	A	T	C	C	T	C	C	A	T	G	G	C	C	A	T	T	T	A	T	G	C	A	C	T	A	T	A	A	G	T	T	C	T	G	C	A	G	C	T	G	C	C	A	G	G	G	T	C	C	G	A	G	A	160				
Cavia	C	A	G	T	T	G	C	C	A	T	C	C	T	C	C	A	T	G	G	C	C	A	T	T	T	A	T	G	C	A	C	T	A	T	A	A	G	T	T	C	T	G	C	A	G	C	T	G	C	C	A	G	G	G	T	C	C	G	A	G	A	160						
Homo	T	C	A	T	T	G	C	C	A	T	C	C	T	C	C	A	T	G	G	C	C	A	T	T	T	A	T	G	C	A	C	T	A	T	A	A	G	T	T	C	T	G	C	A	G	C	T	G	C	C	A	G	G	G	T	C	C	G	A	G	A	160						

ENSMUSG00000021609 exon 13 (ORF 0)

Mus	A	A	A	C	T	G	G	C	C	A	T	G	C	C	A	T	C	A	C	A	C	T	G	A	G	A	A	G	A	C	C	A	T	C	A	G	T	A	G	G	A	C	A	G	A	G	G	G	G	A	G	T	G	C	G	C	C	A	A	T	T	C	A	C	G	72
Rattus	A	A	A	C	T	G	G	C	C	A	T	G	C	C	A	T	C	A	C	A	C	T	G	A	G	A	A	G	A	C	C	A	T	C	A	G	T	A	G	G	A	C	A	G	A	G	G	G	A	G	T	G	C	G	C	C	A	A	T	T	C	A	C	G	72	
Cavia	A	A	A	C	T	G	G	C	C	A	T	G	C	C	A	T	C	A	C	A	C	T	G	A	G	A	A	G	A	C	C	A	T	C	A	G	T	A	G	G	A	C	A	G	A	G	G	A	G	T	G	C	G	C	C	A	A	T	T	C	A	C	G	72		
Homo	A	A	A	C	T	G	G	C	C	A	T	G	C	C	A	T	C	A	C	A	C	T	G	A	G	A	A	G	A	C	C	A	T	C	A	G	T	A	G	G	A	C	A	G	A	G	G	A	G	T	G	C	G	C	C	A	A	T	T	C	A	C	G	72		

ENSMUSG00000021609_intron_12



ENSMUSG00000031375 intron 3

Description: Biglycan Precursor (Bgn)

Intron number: 3

Mouse chromosome: X

Upstream exon length: 214

Downstream exon length: 111

Mouse intron length: 561

Intron alignment length: 1009

Total murinae branch length: 0.14172

K_score: 0.08245

Scaling factor: 0.63676

ENSMUSG00000031375 exon 3 (ORF 0)

Mus	CCTCTGCGGAAGCTGCAAAA	AACTCTACATCTCCAA	GAAACCACTGGTGGAGATT	CCTCCCAACCTGCCAGCT	CCCTGGT	30
Rattus	CCTCTGCGGAAGCTGCAAAA	AACTCTACATCTCCAA	GAAACCACTGGTGGAGATT	CCTCCCAACCTGCCAGCT	CCCTGGT	30
Cavia	CCTCTGCGGAAGCTGCAAAA	AACTCTACATCTCCAA	GAAACCACTGGTGGAGATT	CCTCCCAACCTGCCAGCT	CCCTGGT	30
Homo	CCTCTGCGGAAGCTGCAAAA	AACTCTACATCTCCAA	GAAACCACTGGTGGAGATT	CCTCCCAACCTGCCAGCT	CCCTGGT	30

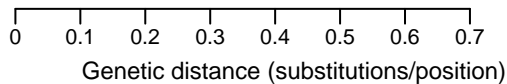
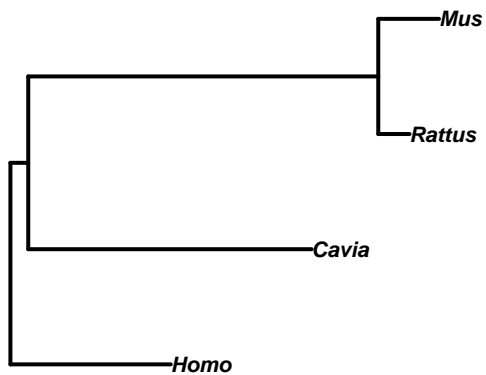
Mus	AGA	ACTACGAATCCATGACA	AACCGTATCCGCAAAGT	GCCCAAGGGCGT	GTTT	CAGCGGGCT	CCGGAACATGAACT	GCA	T	G	160
Rattus	AGA	ACTACGAATCCATGACA	AACCGTATCCGCAAAGT	GCCCAAGGGCGT	GTTT	CAGCGGGCT	CCGGAACATGAACT	GCA	T	G	160
Cavia	AGA	ACTACGAATCCATGACA	AACCGTATCCGCAAAGT	GCCCAAGGGCGT	GTTT	CAGCGGGCT	CCGGAACATGAACT	GCA	T	G	160
Homo	AGA	ACTACGAATCCATGACA	AACCGTATCCGCAAAGT	GCCCAAGGGCGT	GTTT	CAGCGGGCT	CCGGAACATGAACT	GCA	T	G	160

ENSMUSG00000031375 exon 4 (ORF 2)

Mus	AGATGGGCGGGAAATCCCCT	GGAGAACAGTGGCTTT	GAACCA	GGAGCCTTTGATGGCCT	GAAGCTCAACT	TACCTGCGCAT	C	30
Rattus	AGATGGGCGGGAAATCCCCT	GGAGAACAGTGGCTTT	GAACCA	GGAGCCTTTGATGGCCT	GAAGCTCAACT	TACCTGCGCAT	C	30
Cavia	AGATGGGCGGGAAATCCCCT	GGAGAACAGTGGCTTT	GAACCA	GGAGCCTTTGATGGCCT	GAAGCTCAACT	TACCTGCGCAT	C	30
Homo	AGATGGGCGGGAAATCCCCT	GGAGAACAGTGGCTTT	GAACCA	GGAGCCTTTGATGGCCT	GAAGCTCAACT	TACCTGCGCAT	C	30

Mus	TCAGAGGCCAAGCTCACTGGCAT	CCCCAAAG	111
Rattus	TCAGAGGCCAAGCTCACTGGCAT	CCCCAAAG	111
Cavia	TCAGAGGCCAAGCTCACTGGCAT	CCCCAAAG	111
Homo	TCAGAGGCCAAGCTCACTGGCAT	CCCCAAAG	111

ENSMUSG00000031375_intron_3



ENSMUSG00000041313 intron 10

Description: High affinity cationic amino acid transporter 1 (Slc7a1)

Intron number: 10

Mouse chromosome: 5

Upstream exon length: 109

Downstream exon length: 104

Mouse intron length: 1346

Intron alignment length: 1783

Total murinae branch length: 0.22903

K_score: 0.03872

Scaling factor: 0.6375

ENSMUSG00000041313 exon 10 (ORF 0)

Mus	GTACCCCTTTGTCCCCGTA	CTTCTGTCTTTGAGCATCTT	CCTGAACATCTATCTCAT	GATGCAGCTGGACCAGGGCA	CGT	80
Rattus	GTACCCCTTTGTCCCCGTA	CTTCTGTCTTTGAGCATCTT	CCTGAACATCTATCTCAT	GATGCAGCTGGACCAGGGCA	CGT	80
Cavia	GTGCCCCTTCTTGGCGAGT	GCTGCCCATCTGAGCATTTT	CCTGAACATCTATCTCAT	GATGCAGCTGGACCAGGGCA	CGT	80
Homo	GTTCCCTTCCGGCGAGT	GCTGCCCATCTGAGCATTTT	CCTGAACATCTATCTCAT	GATGCAGCTGGACCAGGGCA	CGT	80

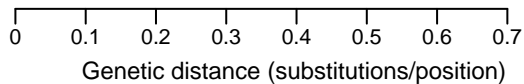
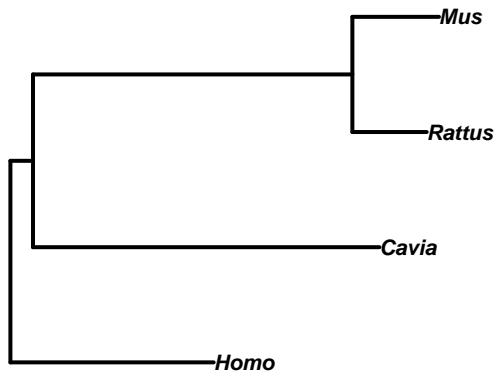
Mus	GGTCCGGTTTGCAGTGT	GGATGCTGATAG	109
Rattus	GGTCCGGTTTGCAGTGT	GGATGCTGATAG	109
Cavia	GGTCCGGTTTGCAGTGT	GGATGCTGATAG	109
Homo	GGTCCGGTTTGCAGTGT	GGATGCTGATAG	109

ENSMUSG00000041313 exon 11 (ORF 2)

Mus	GTTTCACCATCTACTTT	GGTTATGGATCTGGCACAGT	GAGGAAGCGTCCCTGGCT	GCTGGCCAGGCAAAGACT	CCTGAC	80
Rattus	GCTTTGCATCTACTTT	GGCTATGGGCTCTGGCACAGT	GAGGAAGCATCCCTGGCT	GCTGGCCAGGCAAAGACT	CCTGAC	80
Cavia	GCTTCATCATCTACTTT	GGCTATGGGCTGTGGCACAGT	GAGGAAGCATCCCTGGCT	GCTGGCCAGGCAAAGACT	CCTGAT	80
Homo	GCTTCATCATCTACTTT	GGCTATGGGCTGTGGCACAGT	GAGGAAGCATCCCTGGCT	GCTGGCCAGGCAAAGACT	CCTGAC	80

Mus	AGCAACTTTGGACCAAGT	GCAAATGA	104
Rattus	AGCAACTTTGGACCAAGT	GCAAATGA	104
Cavia	AGCAACTTTGGACCAAGT	GCAAATGA	104
Homo	AGCAACTTTGGACCAAGT	GCAAATGA	104

ENSMUSG00000041313_intron_10



ENSMUSG00000020198 intron 22

Description: AP-3 complex subunit delta-1 (Ap3d1)

Intron number: 22

Mouse chromosome: 10

Upstream exon length: 72

Downstream exon length: 96

Mouse intron length: 388

Intron alignment length: 674

Total murinae branch length: 0.19484

K_score: 0.08845

Scaling factor: 0.63902

ENSMUSG00000020198 exon 22 (ORF 0)

Mus	GGTGAGGACTTAGACTTCTGGG	-----	TGTCCACC	-----	ACCCACCACTGCTGCTGCCCC	53
Rattus	GGTGAGGACTTAGACTTCTGGT	-----	TGTCCACC	-----	ACCCACCACTGCTGCTGCCCC	53
Cavia	G-----	CTTCTGGC	AGATAGCGAGAAGC	TGTCCACC	CAGAAACACAGAA	80
Homo	CTGAGGACCTTGGACTTCTGGC	-----	TGTCTACC	-----	ACCCACCACTGCTGCTGCCCC	53

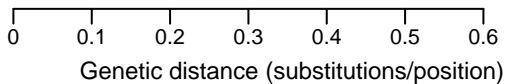
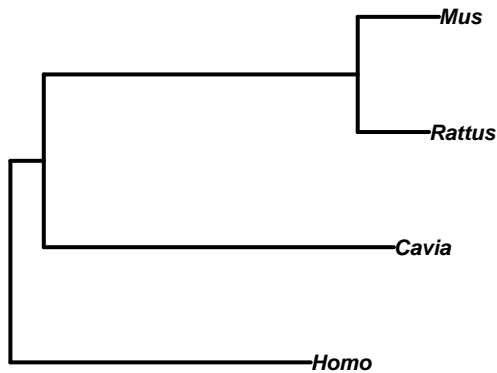
Mus	CATTTCCTGCCCC	-----	GTCCACG	72
Rattus	CGTCCCTGCCCC	-----	ATCTACG	72
Cavia	-----	-----	GTCCCT	67
Homo	CGCCCCCGCCCC	CGTTCGATCCACG	-----	78

ENSMUSG00000020198 exon 23 (ORF 0)

Mus	GAA G A C T T G C T G C A A G C A C T A T C A C C T	C C C C T A A G G A T G A G T G T G A G G T T C T C A A A G G G G A A	-----	G A G G A	68
Rattus	G A A G A C T T G C T G C G A G C A T T G T C A C C C	C C C C T A A G G C T G A G T G T G A G G T T C T C A A A G G G G A A	G A G C C C C A G G A C	G A G G A	80
Cavia	-----	T C T A C C A C C C C C G C T T G T C A C T G	C C C C T	-----	30
Homo	-----	-----	G A C G A G T G T G A G G A C G C C A A G A C G G A G C C G C A G G G C G A G G A G G A	-----	44

Mus	GGACCACGTTGATCATGACCAAGAAAGG	96
Rattus	GGACCACATGGATCATGACCAAGAAAGG	108
Cavia	-----	48
Homo	CGATGCCGAGGGGCAAGACCAAGACAAG	72

ENSMUSG00000020198_intron_22



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Mus      G T A A . . . . . 4
Rattus  G T A A . . . . . 4
Cavia   G T A A A T G A A G A C A T C C C C C G T A G A A A G A A G A G C A A A A A A A A A A A A A G C A C A A A G A A A G A G A G A G A A A G A G A G G A A G A A G G A A A G G A A A G G A A A 110
Homo    G T A A C A G A C T G G C A G C G G G A . . . . . 22

Mus      . . . . . G T G C C T G C T C C G T G T G T C T C A G G T T C T C A T T T G T A . . . . . T C C C A G G A G C C A G C G 56
Rattus  . . . . . G T G C C T G C T C T G T A T G T C T T G G C A G G T C A C C T T G T A C A T T T C C C A G G A G C C A G G C 50
Cavia   . . . . . G T G C C G C C T G C T G T C T G C A G G C C C T G G G . . . . . G T T T C A G G A G C C A G A G 211
Homo    . . . . . G T G C C A C C C T C G G T G T C T G C A G A C G T C A . . . . . T A C C T G C C A C T C A G G 66

Mus      . . . . . A A T G C C A G G C A . T C C C T G C A A T C A G A G C C C A G A C A G A A G T G C C A G T A A A T G A C T G G A G T C A A G C C T C G T G G C T G C C C T T C T G T A C T T T G . . . . . T G C T C T A T G C T G 158
Rattus  . . . . . A G T G C C A G G C A T C C C C T G C A G T C A G A G C C A C A C A T A . . . . . C C T G G T T G G C T G C C T T C T G T A C T T T G . . . . . T G G T C T G T G T C T G 137
Cavia   . . . . . C G G G C C A C G T G T C C C C A T G . . . . . G T G C T G C G C A G A T T G G C G T C C C A G T C A G T G A G C C 270
Homo    . . . . . A A G A G C C C T G G G T C T C C T G A G G . . . . . C C C T G T C T C T C G G G T G A G C A C G T G . . . . . C A . . . . . 217

Mus      . . . . . C T A T C C T G T G A G A C T C T . . . . . G T G C T T G C C A G G C T T C A G . . . . . 193
Rattus  . . . . . C T G T C C T A T G G G A C T C T . . . . . G T G C T T G C C A G A G C T C A G . . . . . 172
Cavia   . . . . . G T G T C C T G G G G G C C A T G T G T A G G C T G T C A C A G A C A T T C T G G C C T C C A T G T A G G C T G T C A C A C A T G C G G G C A G A G C . . . . . A G C C 354
Homo    . . . . . C C T G T G G G A C C A . . . . . G C A C T G A G T G G A C C G G G G T C A T G C T C C G G G T C C C A G T G G C C 174

Mus      . . . . . T G A G G C A G A G G G T A C C A G C A G G A G . . . . . G T T T G T C C C A A G G . . . . . C A T C C C T T G G A G A T G T C C C A G G C C T C A . . . . . G T G G A C A G C A C T G 277
Rattus  . . . . . T G A G G T A G A G G G C T G G C A G C A G A T T . . . . . G T C T G T C C C A A G G . . . . . C A T T C G C T G G A G T A T G T C C C A G C C T G A G . . . . . C A G A C A C A G G A C T G 256
Cavia   . . . . . A G C C G G G G T G C A G G G T A G C C A G G A C A A G G G G C A G C C C T G T A G G C C A G A G . . . . . C T C A C G T G C C C C C T T C C C T T C A G . . . . . 434
Homo    . . . . . A A G C A G G G G C A G G G A A G G G A G G A C A G C C A G G C . . . . . C T C T G T G C T C A C A G G C T C C C T G T G A C T G G G A G G C A C T G T G G C C T T C A G G C A G G C A A G C T G 280

Mus      . . . . . G T T A T G T G G G A T C A A A G T T C T C T A C T G C T C C T A A A G C T G G A A C C C A T G A A C A G T C T G G . . . . . A A T A C C A C T A C A C C C C T C C C A A A A G C T G A C T C T G A C C T C C 379
Rattus  . . . . . G T T A C G T G G G A T T C A G A T T C T C T T A C T G C T C C T A A A G C A G G A A G C C C T G A A C A T C A G G . . . . . A A T A C C A C T G C A C G T C C C C T G A A A A C T G A C C T G A C C T T C C 356
Cavia   . . . . . A G G C T C T G T G C A T G T A G G C T G T C T G G T T T A G C C G A G G A C C T G A T T T C T G G C . . . . . A T A G C C C A A G C C T C C G T C C G T C G A G C G G C A G C C A G T G T C T A G C T G 481
Homo    . . . . . A G G C T C T G T G C A T G T A G G C T G T C T G G G C T G A A G T G G A C T G G G C C C C T A T T G C C C A G G A T A G A G C C C A A G C C C T C C G T C C G T C C G T C G A G C G G C A G C C A G T G T C T A G C T G 390

Mus      T G A T A C . . . . . A G 388
Rattus  C A A C T G C . . . . . A G 365
Cavia   . . . . . T G 483
Homo    T C A C T A C C C C G A A G 404

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ENSMUSG00000038644 intron 18

Description: DNA polymerase delta catalytic subunit (Pold1)

Intron number: 18

Mouse chromosome: 7

Upstream exon length: 138

Downstream exon length: 176

Mouse intron length: 506

Intron alignment length: 999

Total murinae branch length: 0.24106

K_score: 0.04255

Scaling factor: 0.64265

ENSMUSG00000038644 exon 18 (ORF 0)

Mus	GTAGTCTACGGTGAACAGGACTCTGTGATGTGCCCGTTTGGCGTCTCCTCTGTGGCTGAAGCAATGTCTCTGGGGCGGGA	80
Rattus	GTGGTCTACGGTGAACACTGACTCTGTGATGTGCCCGATTGGTGTCTCCTCTGTGGCTGAAGCAATGTCTCTGGGGCGGGA	80
Cavia	GTGGTGTATGGTGAACACTGACTCTGTGATGTGCCCGATTGGCGTCTCCTCTGTGGCTGAAGCGATGGCTCTGGGGCGGGA	80
Homo	GTGGTGTATGGTGAACACTGACTCTGTGATGTGCCCGATTGGCGTCTCCTCTGTGGCTGAAGCGATGGCTCTGGGGCGGGA	80

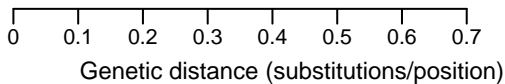
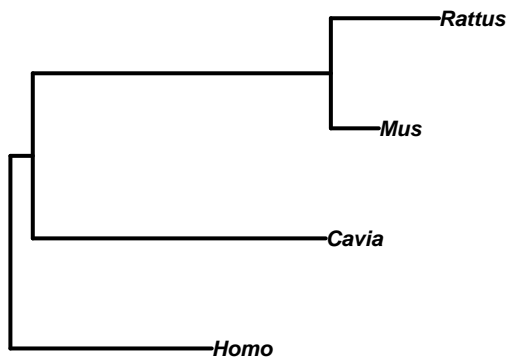
Mus	GGCTGCAAACTGGGTATCCAGTCACTTCCCATCACCCATCCGGCTGGAGTTCGAGAAAG	138
Rattus	GGCTGCAAACTGGGTATCCAGTCACTTCCCATCACCCATCCGGCTGGAGTTCGAGAAAG	138
Cavia	GGCCGCGGAGCTGGGTATCCAGTCACTTCCCCTCCGCCCCATCCGGCTGGAGTTCGAGAAAG	138
Homo	GGCCGCGGAGCTGGGTATCCAGTCACTTCCCCTCCGCCCCATCCGGCTGGAGTTCGAGAAAG	138

ENSMUSG00000038644 exon 19 (ORF 0)

Mus	GTTTACTTCCCATACCTGCTCATCAGCAAGAAGCGCTATGCTGGCCTGCTCTTCTCCTCCCGCTCTGATGCCCATGACAA	80
Rattus	GTTTACTTCCCATACCTGCTCATCAGCAAGAAGCGCTATGCGGGCCTACTCTTCTCCTCCCGCTCTGATGCCCATGACAA	80
Cavia	GTTTACTTCCCATACCTGCTCATCAGCAAGAAGCGCTATGCGGGCCTGCTCTTCTCCTCCCGGCTCCGACAGCCACGACCG	80
Homo	GTTTACTTCCCATACCTGCTTATCAGCAAGAAGCGCTATGCGGGCCTGCTCTTCTCCTCCCGGCTCCGACAGCCACGACCG	80

Mus	AATGGACTGCAAGGGCCTGGAGGCTGTGCGCAGGSAACAAGTGTCCCTGGTGGCCAAACCTCTTACATCCTCTCTGGCC	160
Rattus	AATGGACTGCAAGGGCCTGGAGGCTGTGCGCAGGSAACAAGTGTCCCTGGTGGCCAAACCTCTTACATCCTCTCTGGCC	160
Cavia	CATGGACTGCAAGGGCCTGGAGGCTGTGCGCAGGSAACAAGTGTCCCTCGTGGCCAAACCTGGTCACTGCCTCACTGGCC	160
Homo	CATGGACTGCAAGGGCCTGGAGGCTGTGCGCAGGSAACAAGTGTCCCTCGTGGCCAAACCTGGTCACTGCCTCACTGGCC	160

ENSMUSG00000038644_intron_18



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Mus      G T G C G T G . . . . . C A T C C T C T C 16
Rattus  G T G C G T G . . . . . T G T C C C T G 16
Cavia   G T C T G G G . . . . . G G T T T C C G C T G 24
Homo    G T C G G T G G T G G G T C A G G G G C T G C A T T T A G G T G C C T C A T C A G G G T G T C C C G T T C T T T G G G T T C A C A A A A G C C A C A G T G T G A A G G G A T T G C C T G G T T A 110

Mus      T A C T C A G C T C A G T G G A G A C A T T A G G G G T C T T A T C A A T T A G T G A T G T C T C C T A . . . . . T G A C A G T A C . . . . . A G T A G T G T G G G C T 92
Rattus  T A C T T G G T C A G T G G A G A T T A T T A G G G G T G T T A T A C A T T A G C A T G A T G T C T T A C T T A G T T G C A T T C C T C A G A G G C C A A C A G T G C . . . . . A G T A G T G T G G G G T 114
Cavia   A T T G C C C C A C A G G G A G G G C A C T G G G T . . . . . G G G A T C C C C A A G T G C T . . . . . G A T G T C T T C G G T G 94
Homo    G A T T C T C C T C A G G C T G G G G C T T G G T T . . . . . G G G A G C C T C C A A G G C C T T G G C T T T G T T A C C C T G A T G C A T C T G T T C T T T G A A A C C C T T C G G T G T 207

Mus      C C C A G G C T C G G A G T C T T G C A G T T T C T G G G T T G T A . . . . . G C T G A G C C C C T C T T T G C A A A C C A G T G G T A C A T 162
Rattus  C C C T A G C C T G G A A G C C T T G C A G T G T T C T G G G T C T A . . . . . G C T G A G C C C T C T T T G A T T G A T T G C A T G T C . . . . . 178
Cavia   C C C A G G T A T T C A G T . . . . . C A G T C C C C C A G G C C T C T . . . . . C T C C T C A G G G T C A G G A C C T A T G C C T T G G G T C C T G A G . . . . . 155
Homo    C C C T G G T T T G A G G T G T C A C A G T G T C C T G G T T T G A G G T T C C C A G T A C C T G T C A G A T G T G G A G C T G C C T C C A C G C A G G A C C T G A T . . . . . G G G G T C C A C 307

Mus      T T T G A T C T G T C G A T G T A G T G G C T C C A G T T C T C C C A G A A G C T C A A A C A T G A C A C . . . . . 220
Rattus  T G T G C T C T G G G T G C T G A C A T T C C T C C A G T C C T C A C C A A T C C T C . . . . . G A C A C . . . . . 230
Cavia   T T T G G G T C A G A C . . . . . G A T T G C C C C T G C C C T C T G A G T T C C C A G T A C C T G T C A G A T G T G G A G C T G C C T C C A C G C A G G A C C T G A T . . . . . 214
Homo    G T T A G A C T C T G A C . . . . . G A T T G C C C C T G C C C T C T G A G T G C G G C A C A C T T G G T G C C A G A A A C C T G C A C C A T A T T T T C T T T T G A A G A G T C T G G G T C T C G C T C T G T C 412

Mus      . . . . . C C T G C C T T C . . . . . 230
Rattus  . . . . . C C T G G C T G C . . . . . 240
Cavia   G C C C A G G C T G G A G T G C A G T G G C G A T T C A C A G G G G G C C A G C C C A G G C C A G G A G G C T T C A T T C A A C C C A C C T T C . . . . . 267
Homo    G C C C A G G C T G G A G T G C A G T G G C G A T T C A C A G G G G G C C A G C C A A G T C C T G G C C T T G G C C T C T G A G C C G C C A C G C C C A G T T C T C A C A 522

Mus      . . . . . T C A C C A G G C T A T . . . . . C T C A G C T C A G G G C T C A C . . . . . T T G T C C T G 270
Rattus  . . . . . T C A T C C A G G C C T T . . . . . C T C A G C T C A G G A C C A G . . . . . T T G A T C C T G 280
Cavia   . . . . . T T C C C A G G C T A . . . . . C A T C C A C C A G T C A G G G C C T A G G G T G T G G G C C T T C A 322
Homo    C T G T A C T G T T C C G G T G G C T T A C G G T C T C T C G T G C C A G G C C T T G G A C T T G G A G C C T C G C A G A G T G G G C A G G T C T C G C T C A G G G C A G . . . . . C C A G C C T A G 624

Mus      . . . . . C T C T T C C A T G G C T C C A A G A C T T T A C A G T G T C A C C T G T C G G A T T C A T A A T T C G G G G C C A G G C . . . . . 337
Rattus  . . . . . T C G C C T C C A A G G G T G A A G G C T T T A T A G T G T C A C C T G T C G G T T T C A T A A T C A G G G G C C A G G T . . . . . C 347
Cavia   T T T C T C T C T C T T C A T G G G A T G C T T A T C A C T C C C T G T C G G A T C I C A T G T T T A G G G A C T A T C T G G A T T T A C C A G T C T C T G T T C A G A T T G G G G T C T C T G G T C T 734
Homo    T T T C T C T C T C T T C A T G G G A T G C T T A T C A C A C T C C C T G T C G G A T C I C A T G T T T A G G G A C T A T C T G G A T T T A C C A G T C T C T G T T C A G A T T G G G G T C T C T G G T C T 734

Mus      T A G G C C T A T G G C A T T A T G T C A G T G G G T T C T G G G T . . . . . G C T G G A G A T G C T G G C C T C T T G G A T T C A . . . . . 405
Rattus  T G G C C T G T G C C A T T G T G T C A G T G G G T T C T G G G T . . . . . A G T G G A G A A T C T G G A C C T T C T T A G G A T T C A T T T C A C A 422
Cavia   . . . . . G G A C C T G G C A . . . . . G G T G C A G T C A G G A A C C A C C T T A G C T C C C T C T C C A T C . . . . . G G C T C A G C T C C C T G A G T G T C C A G G C T G 442
Homo    G G G G C T C T G C C A T T C C . . . . . G A G G G C C T C A G G A C C A C T T C C A G C C A T A G A G T G T C T C G G T C C A T C C C A C A G G C T A G G G C A G G G C T C . . . . . A T G T C T C A A A C T G 838

Mus      . . . . . T T C C T T G C C T G T T G T T T C C . . . . . T G G T C T G G G A T T C G G G C C G G A A G A A T C T G C A C A G G C C A T G G A G G A A T G T G C A C A G G C T C C G C C C A T G G G T 497
Rattus  A G G T C A A G G G T C C T T G C C T G C C G T T C T G T T T C T . . . . . G A T T G G G T C T C A G G A T T C A G G C T G A A G G A A A G T G C A G G T G C T . . . . . T A C C A C C C A T G G G T 511
Cavia   T G T T T G G G G C C T T G C C T G C G T T T C T G G A A A G T C T C A G G A T G G G A C . . . . . G A A C C C A T T C T . . . . . G A G G G C T T G C C T G C C T G 534
Homo    G T C T . . . . . G G G A C C T G T C T A C C . . . . . T T C A G T T T C G G G G G C T T C C A G A T T G G G C T . . . . . T G G G C T G C T A G G C T . . . . . C A G G G C T T T G G C A T G G G T 926

Mus      C C T T T G C A G 506
Rattus  C C T T T G C A G 520
Cavia   C C C T C C C A G 543
Homo    C C C T C C C A G 935

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ENSMUSG00000035051 intron 19

Description: Putative ATP-dependent RNA helicase DHX57 (Dhx57)

Intron number: 19

Mouse chromosome: 17

Upstream exon length: 135

Downstream exon length: 75

Mouse intron length: 1087

Intron alignment length: 2221

Total murinae branch length: 0.29213

K_score: 0.06477

Scaling factor: 0.6434

ENSMUSG00000035051 exon 19 (ORF 0)

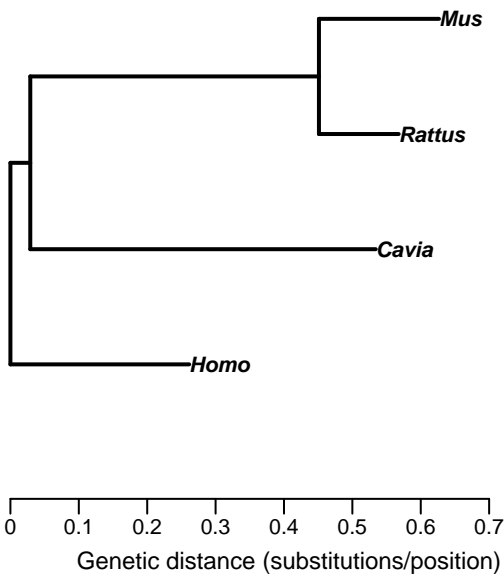
Mus	GAAATGGCCAGCCTCAAACGACAATTCACTGAACTGCTCTCCGACATAGGGTTTTGTCAAAGAAAGGACTCCGAGCAAAAGA	80
Rattus	GAAATGGCCAGCCTCAAACGCAATTCACTGAACTGCTCTCCGATATAGGGTTTTGTCAAAGAAAGGACTCCGAGCAAAAGA	80
Cavia	GAAATGGCCAGCCTCAAACGACAATTCACTGAACTGTTATCGATATAGGGTTTTGTAAAGGAAAGGACTCAGAGCAAGAGA	80
Homo	GAAATGGCCAGCCTCAAACGACAATTCACTGAACTGTTATCGATATAGGGTTTTGTAAAGGAAAGGACTCAGAGCAAGAGA	80

Mus	AATTGAAAAACGAGCCCAAGGAGGAGATGGTGTCTGGATGCCACAGGAGAGGAG	135
Rattus	GATTGAAAAAGAGA GCCCAAGGAGGAGATGGTGTCTGGATGCCACAGGAGAGGAG	135
Cavia	AATTGAGAAAAAGGCCCAAGGAGGAGATGGTGTCTGGATGCCACAGGAGAGGAG	135
Homo	AATTGAGAAAAAGGCCCAAGGAGGAGATGGTGTCTGGATGCCACAGGAGAGGAG	135

ENSMUSG00000035051 exon 20 (ORF 0)

Mus	GCTAACACAAATGCTGAGAACCCTAAGCTGATATCAGCAGTGCTGTGTGCCGCTCTGTATCCAAACGTAGTACAG	75
Rattus	GCTAACACAAATGCTGAGAACCCTAAGCTGATATCAGCAGTGCTGTGTGCCGCTCTGTATCCAAATGTAGTACAG	75
Cavia	GCAAACCTCTAATGCAAGAGAACCCTAAGCTGATATCAGCAGTGCTGTGTGCTGCTCTGTATCCAAATGTAGTACAG	75
Homo	GCAAACCTCAAATGCTGAGAACCCTAAGCTGATATCAGCAATGCTGTGTGCTGCTCTGTATCCAAATGTAGTACAG	75

ENSMUSG00000035051_intron_19



ENSMUSG00000026272 intron 10

Description: Serine--pyruvate aminotransferase, mitochondrial Precursor (Agxt)
 Intron number: 10
 Mouse chromosome: 1
 Upstream exon length: 129
 Downstream exon length: 108
 Mouse intron length: 420
 Intron alignment length: 721
 Total murinae branch length: 0.15391
 K_score: 0.0732
 Scaling factor: 0.64431

ENSMUSG00000026272 exon 10 (ORF 0)

Mus	GAAATCCGGCTACCGACAATCACCAACCGTGA	CTGTGCCTGGCGGCTACA	ACTGGAGGGGACATCGT	CAGCTATG	TGCTGGA	80
Rattus	GAAATCCGGCTACCGACAATCACCAACCGTGA	CTGTGCCTGGCGGCTACA	ACTGGAGGGGACATCGT	CAGCTACG	TGCTGGA	80
Cavia	GAAATCCGGCTACCGACAATCACCAACCGTGA	CTGTGCCTGGCGGCTACA	ACTGGAGGGGACATCGT	CAGCTACG	TGCTGGA	80
Homo	GCGCTCCGGCTTCCGACAGTCAACCACTGTG	CTGTGCCTGGCGGCTACA	ACTGGAGGAGACATCGT	CAGCTACG	TGCTGGA	80

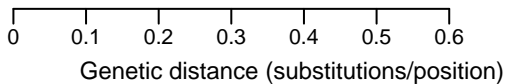
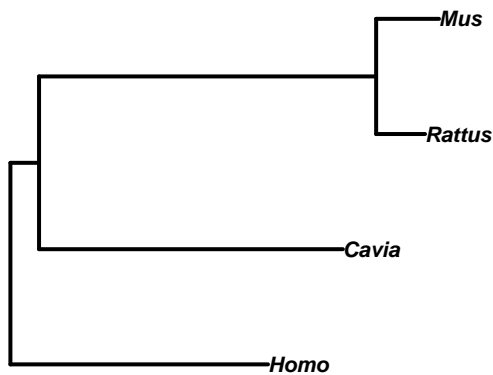
Mus	CCACTTCAGCATTGAAATCTCTGGGGGTCTTGGG	CCACTGAGGAGAGG	129
Rattus	CCACTTCAGCATTGAAATCTCTGGGGGTCTTGGG	CCACTGAGGATTAAG	129
Cavia	CTCTCTTCAGCATTGAAATCTCTGGGGGTCTTGGG	CCCTGGGGAAG	129
Homo	CCACTTCAGCATTGAAATCTCTGGGGGTCTTGGG	CCACTGGGGAAG	129

ENSMUSG00000026272 exon 11 (ORF 0)

Mus	GTGCTACGGATTGGCCTCCTGGGCTACAACGCCACC	CTGAGAATGTGGACC	GTGGCCGAGGCCCTGAGGGAGGCCCT	80
Rattus	GTGCTGCGGATTGGCCTCCTGGGCTACAACGCCACC	AGAGAATGTGGACC	GTGGCCGAGGCCCTGAGGGAGGCCCT	80
Cavia	GTGCTGCGGATTGGCCTCCTGGGCTACAACGCCACC	AGAGAATGTGGACC	GTGGCCGAGGCCCTGAGGGAGGCCCT	80
Homo	GTGCTGCGGATTGGCCTCCTGGGCTACAACGCCACC	AGAGAATGTGGACC	GTGGCCGAGGCCCTGAGGGAGGCCCT	80

Mus	GCAGCATTGTCCTAAGAAAGTTGTGA	108
Rattus	GCAACATTGTCCTAAGAAATTAATTTGTGA	108
Cavia	GCAGCGCTGTCCTCGGTGACAGGCTGTGA	108
Homo	GCAGCACTGTCCTCAGAAAGAAAGCTGTGA	108

ENSMUSG00000026272_intron_10



Mus GTGAGGACCG TCTGGGAAGCCA GGCTTTTAAACCAGAG GCACTAGGCA CCCCTCCCC TATCAGTCC 71
Rattus GTGAGGAGGG TCTGGAAAGGG GGCTTTGTAACCAGAG GCACTAGACA TAGTCACTCC 61
Cavia GTGAGAAATGGAGCAATCGCAAGAGCAGGGCCAGCC TGCAGCAATC CCTCTGAGACAGAG GCACTGGCA 75
Homo GTGASAGGGAAGCGCTTGAAGGCG TTTTGGAGAAAGCAAAACCCGGCA GCGCTCTGAGCAGGACTGTGCAGCAGGTG 78

Mus TGC TGCACA CCCA TCTGTGTGGGTCACTGCAGGGCCAAAGG GCATGAGCA CCTCAAATAGAATAT CCTCAG 145
Rattus TGT TGCAGA AGCC CATGTGTGGGTCACTGCAGGGCCAAAGCA GCATGATGGCTTCAAATAGAATAGGTCAG 135
Cavia GGCACATGCAG 86
Homo CAGGGGAAGCCGGGCTATCCGAAAGCCCAAGATTGCAGAGCCCTCCAGAAAGGCCCACTCTCCAAAGGGTATCCAGTAAAGCGTATCCTGTGCCCCCTGC 178

Mus CCGTCTCCACCAGAGCTGGGAGGTCACACATCACCTTTACAGGTCACACTCTGA 199
Rattus CCTTCTCCACCAGAGGAGGGGCTGCACATCAGCTTTACAGGTCACACTCTGA 189
Cavia TGCAGCCCTTTTCTGGGGGAGTGCCAGAGGCTTTTCTCTGCCACTTGGAA TGGGCTTCTCCCA TCCCTCGGCTCTG GGAAACCTCAGGCC 185
Homo TCCAGCCCAAGCCACTGAGGCTCCAGGCTTTATGATCCACTGGAA CATCTTCTTCCCTGTGACAGAGCCTGGAACCAAGGCC GGAAAGCCGACGCC 287

Mus GCCTGAGTGACCTCCCTGG TCGTACCCTGAACCTCTATGTTTAGGTAAGTGGGAGGGCTGCCTCTGA 271
Rattus GTCTGAGTGACCTCCCTGG CTGTACCCTGAACCTCTATGTTTAGGTAAGTGGGAGGGCTGCCTCTGA 261
Cavia GGTCTCAAAAGACTCTATCAGGCCAGGCATGCTGAGAGACCTTCTTGG GCACTGGGCTGGCTTTCTGCA 256
Homo GGCTCTGGCTGTGTCTCTGAG - TGGCASTGGGAGGAACTTCACTGGACCACCTGTCTTCCCGTGTGGCTGCGGCTCCAGAGGAGGAGCC TGGCTG CCTGGG 395

Mus CCGTGTGTGGCATGCATGAGG GAACCTCTCTTCTGCATAGCAGATGGATGCTGATCCCATGTGATAAATACCC TACCTAACCAAGCTCCTAT 366
Rattus TCTGTGTGGCATGCATGAGG GAACCTCTCTTCTGCATAGCAGATGGATGCTGATCCCATGTGATAAATACCC - GCTAACCAAG 347
Cavia CTCTGTGCATAGTGAAGG CAGGCTAGCTTAGGCTCATGGCTC 300
Homo TGCTCAAGGGCCCCCTCTGTGAGCTGGCAAGGCTGTCAACTCCCTCATGAGCGTGGTGGCTGCTCAGCTGAGGCCATCCTGCTCTGGCCAGCTGTGG 505

Mus CAGA - - - CAAAGAGGCTGCACACAGCGGCTGACATCTGCA TGTGCA GCCTACCAAG 420
Rattus - - - - - AGGCTGAGACAG - GCTGACTCTGCTGTTGCA TCCCTACCAAG 390
Cavia - - - - - CCAGCATCTGCTGCTTGTGCCCAACCAAG 329
Homo TCAGGGTCAGGCACCTGCCAGCGGGAAGGCTGAGCTGAGCCGCTGTGCGCCCAAG 563

Mus Rattus Cavia Homo
GTAGGTGAATAGA...CTTCGTCAAGCCAGAGGC...GGCA...GGCTGCTCTCACTGCTCTGGGTAG...GGCAGGGCCAGAA...AGTGAGCTTA 83
GTAGGTGGATTGA...CTTCGTCAA...GTCTCAGGGCTGCTCTGGCTCTGGGTAG...GGCAGGGCCAGAA...AGTGAGCTTA 76
GTAGGTGGCAAA...CATAGGCTCCCTTAAAGCC...AAGGGCCGGCCTGCTCTGGCTCTGGGTAG...GGCAGGGCCAGAA...AGTGAGCTTA 82
GTAGGTGGCAAC...GGAAAGCCCTCTGAGGC...AAGATGAGGCTCACTGCTCTGGCTCTGGGTAG...GGCAGGGCCAGAA...AGTGAGCTTA 105
Mus Rattus Cavia Homo
GTAGTGCCTGTTGGTGAAGGGCAGGAATGGA...AGTCTTGGCTCTCTTCTAACACTCTGAATGATGCCAAGGAGTCTGCT 165
ATGGTCACTTGGTGAAGGGTGGCAATGG...AGTCTTGGCTCTCTTCTAACACTCTGAATGATGCCAAGGAGTCTGCT 156
GAGACTCCAGCAGGAAACCAAGAGGGGTTGAGGTTAAAGTGTCTGGAAAGGGTATCCCTGGTTCAGCGAGCTCTGTGCACTCTGTGATGCCAAGGAGTCTGCT 192
GAGGCACTAGCAAAAGAGGGCAGGAATGAGCTCTGCTG...GGAAAGGGCTCTCTCTGGTTCAGCGAGCTCTGTGATGCCAAGGAGTCTGCT 211
Mus Rattus Cavia Homo
TCCCTTGAAGGAAAGAGCTACTGATTCTAGCTTCTAGATGAGCTGCCACAGTGTCTGGTTCCTCCAGAAICCATAGCAAAGCTTATGCTCTGACCACTC 273
TCCATGAGAAAGAGAGCTACTGATTCTAGCTTCTAGATGAGCTGCCACAGTGTCTGGTTCCTCCAGAAICCATAGCAAAGCTTATGCTCTGACCACTC 264
TCTATGAGAAAGAGAGCTACTGATTCTAGCTTCTAGATGAGCTGCCACAGTGTCTGGTTCCTCCAGAAICCATAGCAAAGCTTATGCTCTGACCACTC 290
TCCGACTTAAACAGAGAGCTCTGCTCTGCTGGTTCAGTGTGATGCCAAGGAGTCTGCTGAGGCTTACCAGGGAGCACTAGAGAGCTTCCCTC 321
Mus Rattus Cavia Homo
CCACAGCTGCCAGAGACAGGCTCACTCTCGA...GGCACTTTCAGCTTTTCTCATCAGAGCTGCACACACCAGCAAGCTCAGCGGGGCATTCCCTACTCCTTCA 380
CCACAGCTGCCAGAGAGAGGCTCACTCTCGA...GGCTTCTTCAAGCTTTTCTCATCAGAGCTGCACACACCAGCAAGGCTTACCTGGGACATTCCCTACTCCTTCA 373
CTCAGCTGCCAGAGAGAGGAGGCAAGGTCAGGTCAG...GGGATTTCTCAGCTTTTCTCATCAGAGCTGCACACACCAGCAAGGCTTACCTGGGACATTCCCTACTCCTTCA 359
CTTACAGCTCCATGGCAGGACTCAGGGCTCAG...GGGATTTCTCAGCTTTTCTCATCAGAGCTGCACACACCAGCAAGGCTTACCTGGGACATTCCCTACTCCTTCA 381
Mus Rattus Cavia Homo
CATAGTCCAGAGACATGAGTATGCCCACTCATGGTGTGAGCTTACCTCTTCCCTTACCTTCCATCCCAAGCA...CATGGGTTTTCCCCAGAAACATGTTGAT 453
CTTGGTCCAGAGACATGAGTATGCCCACTCATGGTGTGAGCTTACCTCTTCCCTTACCTTCCATCCCAAGCA...CATGGGTTTTCCCCAGAAACATGTTGAT 482
CTTGGTCCAGAGACATGAGTATGCCCACTCATGGTGTGAGCTTACCTCTTCCCTTACCTTCCATCCCAAGCA...CATGGGTTTTCCCCAGAAACATGTTGAT 416
CTTGGTCCAGAGACATGAGTATGCCCACTCATGGTGTGAGCTTACCTCTTCCCTTACCTTCCATCCCAAGCA...CATGGGTTTTCCCCAGAAACATGTTGAT 453
Mus Rattus Cavia Homo
CAGTATTTCTTTCATCACTATTAAATAATTAATAGTTTAAAGAAAGGCTTTCATTTTGGATCA...GGTCTGAGAGAGTACATGATAGCATGAAAGAAAGAAACA 593
TGGTATCTTCTTTCATCACTATTAAATAATTAATAGTTTAAAGAAAGGCTTTCATTTTGGATCA...GGTCTGAGAGAGTACATGATAGCATGAAAGAAAGAAACA 585
TGGTATCTTCTTTCATCACTATTAAATAATTAATAGTTTAAAGAAAGGCTTTCATTTTGGATCA...GGTCTGAGAGAGTACATGATAGCATGAAAGAAAGAAACA 416
TGGTATCTTCTTTCATCACTATTAAATAATTAATAGTTTAAAGAAAGGCTTTCATTTTGGATCA...GGTCTGAGAGAGTACATGATAGCATGAAAGAAAGAAACA 453
Mus Rattus Cavia Homo
TCCAGATGTTCAAGAGGTAAGAAATGTACAGCCAGGCACTCTCAC...AGATCACTGGACAGGAAAGCAGCTT...GAGCTTCCAGGGCAGCTGAGCTG 689
GTAGAGTTCAAGAGGTAAGAAATGTACAGCCAGGCACTCTCAC...AGATCACTGGACAGGAAAGCAGCTT...GAGCTTCCAGGGCAGCTGAGCTG 679
TCCAGATGTTCAAGAGGTAAGAAATGTACAGCCAGGCACTCTCAC...AGATCACTGGACAGGAAAGCAGCTT...GAGCTTCCAGGGCAGCTGAGCTG 467
TCCAGATGTTCAAGAGGTAAGAAATGTACAGCCAGGCACTCTCAC...AGATCACTGGACAGGAAAGCAGCTT...GAGCTTCCAGGGCAGCTGAGCTG 533
Mus Rattus Cavia Homo
G...CTTGTACCTCAGTGGCCACTCCCATGGGTTCCAACTAGACCTCATATCTGGAAGGTTCCAGAGCTT...CCCACAAAGAACACACACTAGCCAGGGACCATCTC 793
G...CTTGTACCTCAGTGGCCACTCCCATGGGTTCCAACTAGACCTCATATCTGGAAGGTTCCAGAGCTT...CCCACAAAGAACACACACTAGCCAGGGACCATCTC 783
GAAATGCTCTCCGAAAGGAGAGAACTT...GGGTTCCCTCAGCA...TACCTGAGCCTGGGTTG...CTC 529
AGCAAAGGAGTCTTCTGTGACAGTGT...GGGTTCCCTCAGCA...TACCTGAGCCTGGGTTG...CTC 611
Mus Rattus Cavia Homo
AAACAATACAAACCTTCCAGGAGCAATTTTATATCTGCTCCACAAGCATGTTGAAAGGCCCATGCTAAAGAGAGGTGAATTCGGAAGGAATCCAGGGCCAGAAAGTCCCT 903
AAATACACAAACCTTCCAGGAGCAATTTTATATCTGCTCCACAAGCATGTTGAAAGGCCCATGCTAAAGAGAGGTGAATTCGGAAGGAATCCAGGGCCAGAAAGTCCCT 891
AAATACACAAACCTTCCAGGAGCAATTTTATATCTGCTCCACAAGCATGTTGAAAGGCCCATGCTAAAGAGAGGTGAATTCGGAAGGAATCCAGGGCCAGAAAGTCCCT 581
AAATACACAAACCTTCCAGGAGCAATTTTATATCTGCTCCACAAGCATGTTGAAAGGCCCATGCTAAAGAGAGGTGAATTCGGAAGGAATCCAGGGCCAGAAAGTCCCT 667
Mus Rattus Cavia Homo
GGCAGTGAATCATTTGG...CTCAGACAGCAAGGAAAGTGAANAATCATGCGAGGAGAAAG...GGTGTGGAGGATCAGGAGGATCTTCAACAGACTAGCACTGAT 1002
GGCAGTGAATCATTTGG...CTCAGACAGCAAGGAAAGTGAANAATCATGCGAGGAGAAAG...GGTGTGGAGGATCAGGAGGATCTTCAACAGACTAGCACTGAT 986
GGCAGTGAATCATTTGG...CTCAGACAGCAAGGAAAGTGAANAATCATGCGAGGAGAAAG...GGTGTGGAGGATCAGGAGGATCTTCAACAGACTAGCACTGAT 668
GGCAGTGAATCATTTGG...CTCAGACAGCAAGGAAAGTGAANAATCATGCGAGGAGAAAG...GGTGTGGAGGATCAGGAGGATCTTCAACAGACTAGCACTGAT 777
Mus Rattus Cavia Homo
GAAGGTACCTAATCATGTTCTTCTGCTTCATCA...CATTCATCCAAAATGTGAACCTAGAAAGTGA...TGGATGAAGTGGGGTGCAGGACCTGAGGGCCATCTC 1105
GAAGGTACCTAATCATGTTCTTCTGCTT...CTTCAAGGAAATGTGAGCCTAGAAAGCTAGAGAGTGGGATGGGATGGGTTGGAGGGCTTAGGAGCCATCTA 1091
GAAGGTACCTAATCATGTTCTTCTGCTT...CTTCAAGGAAATGTGAGCCTAGAAAGCTAGAGAGTGGGATGGGATGGGTTGGAGGGCTTAGGAGCCATCTA 743
GAAGGTACCTAATCATGTTCTTCTGCTT...CTTCAAGGAAATGTGAGCCTAGAAAGCTAGAGAGTGGGATGGGATGGGTTGGAGGGCTTAGGAGCCATCTA 878
Mus Rattus Cavia Homo
ACTGACAGGATGTGAGGAGCA...TCTCAGGATCGACTAGGG... 1146
ACTGACAGGATGTGAGGAGCA...TCTCAGGATCGACTAGGG... 1152
...ACAGGAGGGGAGGAGAGTGGTCCAGGCTGGCTTGGGACAGAAATG...TTTCTTGGCTTGGGGAG...CTAGGAGCACTGAGGACTGCT 830
CTCCATCAGGCTTGGAGGACTCAGCAAGCTCAGGGCCGCACTGGGACAGAAATGCTAGATTTTATTCTTGGGGAGAGGAGTGCAGGAGGAGGCTCTGTGGGATCT 987
Mus Rattus Cavia Homo
...GATACCAACTCAGAGGCTCACCACCTCTGCTATTTTCCAG 1189
...GATACCAACTCAGAGGCTCACCACCTCTGCTATTTTCCAG 1175
GGGAGCACTTGGCTGCTGCTGAGGCTCAGCTGCTGCTGCTGCTTTTCCAG 880
GGGAGCACTTGGGTTGGCTGCTGAGCTGCTGCTGCTGCTTTTCCAG 1036

ENSMUSG00000034634 intron 1

Description: Lymphocyte antigen 6D Precursor (Ly6d)

Intron number: 1

Mouse chromosome: 15

Upstream exon length: 52

Downstream exon length: 99

Mouse intron length: 659

Intron alignment length: 882

Total murinae branch length: 0.18082

K_score: 0.08033

Scaling factor: 0.65137

ENSMUSG00000034634 exon 1 (ORF 0)

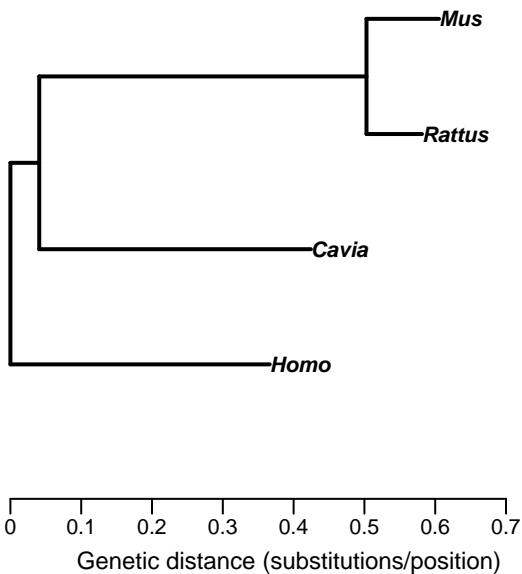
Mus	ATGAAGACAGCTCTGCTCCTCCCTTTGTTCTTGGCTGTGGCCACTAGGCCAG	52
Rattus	ATGAAGACAGCTCTGCTCCTCCCTTTTGGCTTGGCTGTGGCCACTAGGCCAG	52
Cavia	ATGAAGACAGCTCTGCTCCTCCCTTTTGGCTTGGCTGTGGCCACTAGGCCAG	52
Homo	ATGAAGACAGCTCTGCTCCTCCCTTTGCAAGCCCTGGCTGTGGCTTACAGGCCAG	52

ENSMUSG00000034634 exon 2 (ORF 2)

Mus	CCTGGGCACTTCGATGTCAAGTGTGCACCAACAGTGC	CAACTGTAA	GAA	CCCTCAGG	TCTGCCC	TCCA	ACTTCT	ACT	CG	80											
Rattus	CCAGGCATTC	CCGATGT	CATGT	GTGCAT	CAGCAGT	GACAA	ACTGT	AGGAA	TAT	CAGAC	CTGT	CCA	CCG	ACTT	CT	CT	AG	80			
Cavia	CCTACCACT	CCGCTGT	CATGT	GTGCAT	CAGCAGT	GGCAA	CTGCA	AGAA	TCC	CAGAA	CTGCC	TAG	CAG	CTC	CC	GCT	AG	80			
Homo	CCCTTACCCT	GCGCTGC	CAAGT	GTGCAC	CAAGCT	TCA	GCAA	ACTG	CAAG	CA	TCT	CTG	GT	CT	GCCC	GCCA	GCT	CT	GCT	CG	80

Mus	TGCAAACCGT	CACCTCAG	99
Rattus	TGCAGAACAT	CACCAAAG	99
Cavia	TGCAAGACTG	TGATTCAG	99
Homo	TGCAAGACCA	CAACACAG	99

ENSMUSG00000034634_intron_1



ENSMUSG00000038567 intron 5

Description: 1,25-dihydroxyvitamin D (Cyp24a1)

Intron number: 5

Mouse chromosome: 2

Upstream exon length: 92

Downstream exon length: 112

Mouse intron length: 933

Intron alignment length: 1460

Total murinae branch length: 0.19854

K_score: 0.07871

Scaling factor: 0.65165

ENSMUSG00000038567 exon 5 (ORF 2)

Mus	G	C	A	T	C	T	G	C	T	T	G	T	T	A	T	A	T	G	A	G	A	A	G	A	T	T	G	G	G	C	T	C	C	T	T	C	A	A	A	A	G	G	A	C	A	C	A	G	G	A	A	G	A	A	G	C	C	T	G	A	C	C	T	T	C	A	T	T	G	C	G	80
Rattus	G	C	A	T	C	T	G	C	T	T	G	T	T	A	T	A	T	G	A	G	A	A	G	A	T	T	G	G	G	C	T	C	C	T	T	C	A	A	A	A	G	G	A	C	A	C	A	G	G	A	A	G	A	A	G	C	C	T	G	A	C	C	T	T	C	A	T	T	G	C	G	80
Cavia	G	C	A	T	C	T	G	C	T	T	G	T	T	A	T	A	T	G	A	G	A	A	G	A	T	T	G	G	G	C	T	C	C	T	T	C	A	A	A	A	G	G	A	C	A	C	A	G	G	A	A	G	A	A	G	C	C	T	G	A	C	C	T	T	C	A	T	T	G	C	G	80
Homo	G	T	A	T	C	T	G	C	T	T	C	A	T	G	A	T	G	A	G	A	A	G	A	T	T	G	G	G	C	T	C	C	T	T	C	A	A	A	A	G	G	A	C	A	C	A	G	G	A	A	G	A	A	G	C	C	T	G	A	C	T	T	C	A	T	T	G	C	G	80		

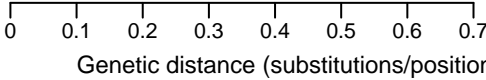
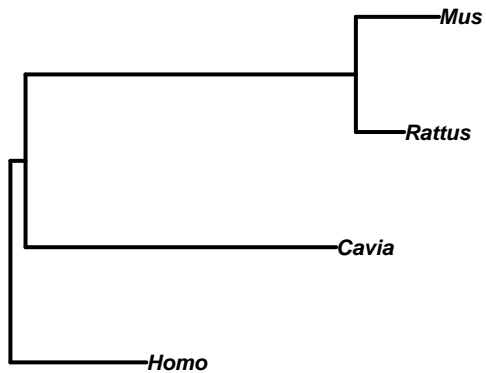
Mus	G	C	C	A	T	C	A	A	A	A	C	A	92
Rattus	G	C	C	A	T	C	A	A	A	A	C	A	92
Cavia	G	C	C	A	T	C	A	A	A	A	C	A	92
Homo	G	C	C	A	T	C	A	A	A	A	C	A	92

ENSMUSG00000038567 exon 6 (ORF 0)

Mus	A	T	G	A	T	G	A	G	C	A	C	A	T	T	T	G	G	G	A	A	G	A	T	G	A	T	G	G	T	G	A	C	C	C	C	C	G	T	G	A	G	C	T	G	C	A	C	A	A	G	C	G	C	C	T	C	A	A	C	A	C	C	A	A	A	G	T	G	T	G	G	C	A	A	G	C	G	C	A	80
Rattus	A	T	G	A	T	G	A	G	C	A	C	A	T	T	T	G	G	G	A	A	G	A	T	G	A	T	G	G	T	G	A	C	C	C	C	C	G	T	G	A	G	C	T	G	C	A	C	A	A	G	C	G	C	C	T	C	A	A	C	A	C	C	A	A	A	G	T	G	T	G	G	C	A	A	G	C	G	C	A	80
Cavia	A	T	G	A	T	G	A	G	C	A	C	A	T	T	T	G	G	G	A	A	G	A	T	G	A	T	G	G	T	G	A	C	C	C	C	G	T	G	A	G	C	T	G	C	A	C	A	A	G	C	G	C	C	T	C	A	A	C	A	C	C	A	A	A	G	T	G	T	G	G	C	A	A	G	C	G	C	A	80	
Homo	A	T	G	A	T	G	A	G	C	A	C	A	T	T	T	G	G	G	A	A	G	A	T	G	A	T	G	G	T	G	A	C	C	C	C	G	T	G	A	G	C	T	G	C	A	C	A	A	G	C	G	C	C	T	C	A	A	C	A	C	C	A	A	A	G	T	G	T	G	G	C	A	A	G	C	G	C	A	80	

Mus	C	A	C	G	C	T	G	G	C	T	G	G	G	A	C	A	C	C	A	T	T	T	C	A	A	A	T	C	A	G	112
Rattus	T	A	C	G	C	T	G	G	C	T	G	G	G	A	C	A	C	C	A	T	T	T	C	A	A	A	T	C	A	G	112
Cavia	C	A	C	C	T	G	G	C	T	G	G	G	A	C	A	C	C	A	T	T	T	C	A	A	A	T	C	A	G	112	
Homo	C	A	C	T	G	G	C	T	G	G	G	A	C	A	C	C	A	T	T	T	C	A	A	A	T	C	A	G	112		

ENSMUSG00000038567_intron_5



Mus Rattus Cavia Homo
GTAAGCAGGCCCTGGACAGCATGCTCTCAAA...CTAGAATGCAGAAAGTAAAGG...ATCGCTGTGTCTCCCAAAGAGAAATACACACTTACTTAAAT 100
GTAAGCAGGCCCTGGACAGCATGACCCAGTG...CTAGAATTCGAAAGAGAAAGGTTATCGCTGTGTCTCCAAAGAAAGTACACACTTACTTAAAT 99
GTAAGCAGGCCCTGGACAGCATGACCCAGTG...CTAGAATTCGAAAGAGAAAGGTTATCGCTGTGTCTCCAAAGAAAGTACACACTTACTTAAAT 101
GTAAGCAGGCCCTGGACAGCATGACCCAGTG...CTAGAATTCGAAAGAGAAAGGTTATCGCTGTGTCTCCAAAGAAAGTACACACTTACTTAAAT 107

Mus Rattus Cavia Homo
TTTAACTACTTAATTCATTCCTTTGATATG...TATATTTTATATATATGATGTGTACCA... 157
TTTAACTACTTAATTCATTCCTTTGATATG...TATATTTTATATATATGATGTGTACCA... 156
TTTAACTACTTAATTCATTCCTTTGATATG...TATATTTTATATATATGATGTGTACCA... 159
TTTAACTACTTAATTCATTCCTTTGATATG...TATATTTTATATATATGATGTGTACCA... 216

Mus Rattus Cavia Homo
GACAAATTTTCCATGGACAGGGCAGGGTGGTGGGGCAGGGGAGGGATCATTAAAGTGCATTACGTTTACTGTGCACCTTATTTCTGTTATTATATACTCACCAT 326

Mus Rattus Cavia Homo
AATGTAGAATCAGTGGGAGCCCTGAGCTTGTTCGTGCAACACGAAAGTCCCATCTGGGGGTGATGGGAGACAGTGACAGATCATCAGGCATTAGATTCTCATAAAGGAG 436

Mus Rattus Cavia Homo
TGTGGAACATAGATTCTCGCATAGGCAATTCACAATAGGGTTCACACTCCTGTAAGAATCTAATGCAGCCATTGATCTGAGAGGGAGGACAGCTCAGGTTGTAACACCT 546

Mus Rattus Cavia Homo
GCTGGCCCGCTGATCAGCTCCTGCTGGCGGCCCGTTCCTAACAGGCCACTGACCACTACTGGTTACAGGCCCTGGGGTGGGGACCCCTGGATATATGCACGTAACT 656

Mus Rattus Cavia Homo
CACAAATAAGCTAAATCCATTACTATCTATTAGGCAAGTATTITACAA...AAAATACTATTTTAAATATATTTAAGGATCTGCAATTAATGGCAGTTGTTA 264
CACAAATAAGCTAAATCCATTACTATCTATTAGGCAAGTATTITACAA...AAAATACTATTTTAAATATATTTAAGGATCTGCAATTAATGGCAGTTGTTA 264
TTCAAGCAAGTAAATCCATTACTATCTATTAGGCAAGTATTITACAA...AAAATACTATTTTAAATATATTTAAGGATCTGCAATTAATGGCAGTTGTTA 260
AAAGAAGCACTTAAATCCATTACTATCTATTAGGCAAGTATTITACAA...AAAATACTATTTTAAATATATTTAAGGATCTGCAATTAATGGCAGTTGTTA 734

Mus Rattus Cavia Homo
AAAGATACCTTTTAAAG...GTTTCGAGTGTTCAGGTTTAAAAGTITGAAAGTGGTITGAGTAAATTCAGATATAAGATATAGATATGAT...GATTGATTTGGGATTAAC 368
AAAGATACCTTTTAAAG...GTTTCGAGTGTTCAGGTTTAAAAGTITGAAAGTGGTITGAGTAAATTCAGATATAAGATATAGATATGAT...GATTGATTTGGGATTAAC 365
TTCAAGCAAGTAAATCCATTACTATCTATTAGGCAAGTATTITACAA...AAAATACTATTTTAAATATATTTAAGGATCTGCAATTAATGGCAGTTGTTA 342
AAAATACTATTTTAAATATATTTAAGGATCTGCAATTAATGGCAGTTGTTA...GATTGATTTGGGATTAAC 342

Mus Rattus Cavia Homo
AGGTTT...GTTACTATACAGAAACCTGGACCAAAATAGGCAAGTATAG...TTTTCCAGGTTTTCCTCTTTCTATACAAATCAGGACATTAATACTGGGCTGGCAGTACGG 475
AGGTTT...GTTACTATACAGAAACCTGGACCAAAATAGGCAAGTATAG...TTTTCCAGGTTTTCCTCTTTCTATACAAATCAGGACATTAATACTGGGCTGGCAGTACGG 472
AGGTTT...GTTACTATACAGAAACCTGGACCAAAATAGGCAAGTATAG...TTTTCCAGGTTTTCCTCTTTCTATACAAATCAGGACATTAATACTGGGCTGGCAGTACGG 423
AGGTTT...GTTACTATACAGAAACCTGGACCAAAATAGGCAAGTATAG...TTTTCCAGGTTTTCCTCTTTCTATACAAATCAGGACATTAATACTGGGCTGGCAGTACGG 931

Mus Rattus Cavia Homo
TCTACCATACAGGGTACGGGCTACCATAGCAGCTGCTTAGGGCTGGTACGGGCTACCAT...AGGAGCTGCTTGGTGGGCTCAGAGGCAAGAATAATGGAAAGTTTAA 585
TCTACCATACAGGGTACGGGCTACCATAGCAGCTGCTTAGGGCTGGTACGGGCTACCAT...AGGAGCTGCTTGGTGGGCTCAGAGGCAAGAATAATGGAAAGTTTAA 530
TCTACCATACAGGGTACGGGCTACCATAGCAGCTGCTTAGGGCTGGTACGGGCTACCAT...AGGAGCTGCTTGGTGGGCTCAGAGGCAAGAATAATGGAAAGTTTAA 423
TCTACCATACAGGGTACGGGCTACCATAGCAGCTGCTTAGGGCTGGTACGGGCTACCAT...AGGAGCTGCTTGGTGGGCTCAGAGGCAAGAATAATGGAAAGTTTAA 942

Mus Rattus Cavia Homo
AGGTTT...GTTACTATACAGAAACCTGGACCAAAATAGGCAAGTATAG...TTTTCCAGGTTTTCCTCTTTCTATACAAATCAGGACATTAATACTGGGCTGGCAGTACGG 693
AGGTTT...GTTACTATACAGAAACCTGGACCAAAATAGGCAAGTATAG...TTTTCCAGGTTTTCCTCTTTCTATACAAATCAGGACATTAATACTGGGCTGGCAGTACGG 638
TCTACCATACAGGGTACGGGCTACCATAGCAGCTGCTTAGGGCTGGTACGGGCTACCAT...AGGAGCTGCTTGGTGGGCTCAGAGGCAAGAATAATGGAAAGTTTAA 486
TCTACCATACAGGGTACGGGCTACCATAGCAGCTGCTTAGGGCTGGTACGGGCTACCAT...AGGAGCTGCTTGGTGGGCTCAGAGGCAAGAATAATGGAAAGTTTAA 1012

Mus Rattus Cavia Homo
ATGCTT...CTTAAGCAACCAGCAATCTG...GGGTTTCTATCCCAAGTACAAACCAACATAGAGAGATATCTTTTATTAATGAGCAGCAATAATGCTTTGAGATGAGG 802
ATGCTT...CTTAAGCAACCAGCAATCTG...GGGTTTCTATCCCAAGTACAAACCAACATAGAGAGATATCTTTTATTAATGAGCAGCAATAATGCTTTGAGATGAGG 737
ATGCTT...CTTAAGCAACCAGCAATCTG...GGGTTTCTATCCCAAGTACAAACCAACATAGAGAGATATCTTTTATTAATGAGCAGCAATAATGCTTTGAGATGAGG 482
ATGCTT...CTTAAGCAACCAGCAATCTG...GGGTTTCTATCCCAAGTACAAACCAACATAGAGAGATATCTTTTATTAATGAGCAGCAATAATGCTTTGAGATGAGG 1038

Mus Rattus Cavia Homo
AGAGAGATGGTGG...CCTTTGATGCCCACCTTCAAGGATGCAGAAAGGGGCTGAGTAAAGACTCTCCCTTCAAGGAGAATGCTGTCTTAGAGAGAAAGATGG...TG 906
AGAGAGATGGTGG...CCTTTGATGCCCACCTTCAAGGATGCAGAAAGGGGCTGAGTAAAGACTCTCCCTTCAAGGAGAATGCTGTCTTAGAGAGAAAGATGG...TG 842
AGAGAGATGGTGG...CCTTTGATGCCCACCTTCAAGGATGCAGAAAGGGGCTGAGTAAAGACTCTCCCTTCAAGGAGAATGCTGTCTTAGAGAGAAAGATGG...TG 575
AGAGAGATGGTGG...CCTTTGATGCCCACCTTCAAGGATGCAGAAAGGGGCTGAGTAAAGACTCTCCCTTCAAGGAGAATGCTGTCTTAGAGAGAAAGATGG...TG 1148

Mus Rattus Cavia Homo
GGGTTTCAA...GCTTGTGTGTTTCTTACAG 933
GGGTTTCAA...GCTTGTGTGTTTCTTACAG 869
GGGTTTCAA...GCTTGTGTGTTTCTTACAG 595
GGGTTTCAA...GCTTGTGTGTTTCTTACAG 1178

ENSMUSG00000007783 intron 14

Description: Carnitine O-palmitoyltransferase 1, brain isoform (Cpt1c)

Intron number: 14

Mouse chromosome: 7

Upstream exon length: 132

Downstream exon length: 153

Mouse intron length: 608

Intron alignment length: 970

Total murinae branch length: 0.14865

K_score: 0.07037

Scaling factor: 0.65235

ENSMUSG00000007783 exon 14 (ORF 0)

Mus	GACAGGGGTCAATTCTGCCTGACTTATGAGTCAGCCATGAGCCGACTGTTCTGGAAGGCCAGGACAGAGACAGTGAAGTCC	80
Rattus	GACAGGGGTCAATTCTGCCTGACTTATGAGTCAGCCATGAGCCGACTGTTCTGGAAGGCCAGGACAGAGACAGTGAAGTCC	80
Cavia	GACAGGGGTCAATTCTGCCTGACTTATGAGTCAGCCATGAGCCGACTGTTCTGGAAGGCCAGGACAGAGACAGTGAAGTCC	80
Homo	GACAGGGGTCAATTCTGCCTGACTTATGAGTCAGCCATGAGCCGACTGTTCTGGAAGGCCAGGACAGAGACAGTGAAGTCC	80

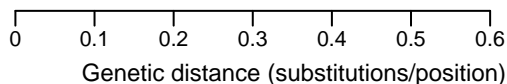
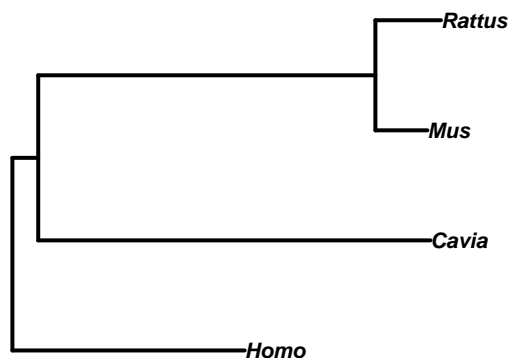
Mus	TTGCACCAGAGAGGCTGCCAGTTTGTGAGAGCCATGAGCAACAAGGAGA--CA	132
Rattus	TTGCACCAGAGAGGCTGCCAGTTTGTGAGAGCCATGAGCAACAAGGAGA--CA	132
Cavia	TTGCACCAGAGAGGCTGCCAGTTTGTGAGAGCCATGAGCAACAAGGAGA--CA	135
Homo	TTGCACCAGAGAGGCTGCCAGTTTGTGAGAGCCATGAGCAACAAGGAGA--CA	135

ENSMUSG00000007783 exon 15 (ORF 0)

Mus	GACCAACAATTGCCTCGCCCTGTTCCGAGTGGCCGTGGACAAGCACCAAGGCTCTACTGAAGGCAGCCGATGAGTGGCCAGGG	80
Rattus	GACCAACAAGTGCCTCGCCCTGTTCCGAGTGGCCGTGGACAAGCACCAAGGCTCTACTGAAGGCAGCCGATGAGTGGCCAGGG	80
Cavia	GACCAACAAGTGCCTCGCCCTGTTCCGAGTGGCCGTGGACAAGCACCAAGGCTCTACTGAAGGCAGCCGATGAGTGGCCAGGG	80
Homo	GACCAACAAGTGCCTCGCCCTGTTCCGAGTGGCCGTGGACAAGCACCAAGGCTCTACTGAAGGCAGCCGATGAGTGGCCAGGG	80

Mus	GATTGACCGTCACCTCTTGGCACTGTACATCATGTCCCCTCTCCTCCATATGCAGTGGCCCTTCTGACCCAG	153
Rattus	GATTGACCGTCACCTCTTGGCACTGTACATCATGTCCCCTCTCCTCCATATGCAGTGGCCCTTCTGACCCAG	153
Cavia	GATTGACCGTCACCTCTTGGCACTGTACATCATGTCCCCTCTCCTCCATATGCAGTGGCCCTTCTGACCCAG	153
Homo	GATTGACCGTCACCTCTTGGCACTGTACATCATGTCCCCTCTCCTCCATATGCAGTGGCCCTTCTGACCCAG	153

ENSMUSG00000007783_intron_14



ENSMUSG00000034918 intron 11

Description: protocadherin 24 (Cdhr2)

Intron number: 11

Mouse chromosome: 13

Upstream exon length: 234

Downstream exon length: 156

Mouse intron length: 787

Intron alignment length: 1665

Total murinae branch length: 0.29201

K_score: 0.06777

Scaling factor: 0.65423

ENSMUSG00000034918 exon 11 (ORF 0)

Mus	TGTC AACG ACCACA AAGCCGGAATTTTACA AACTGCAGCCTCCCTGGCTGCTCCTTTAGCCCCCAAGGAGGCCCAAGTCAACT	30
Rattus	TGTC AACG ACCACA AAGCCGGAATTTTACA AACTGCAGCCTCCAAAACTGCACTTCAAGCCCAAGGAGGCCCAAGGACA ACT	30
Cavia	TGTC AATG ACCACA AAGCCGGAATTTTACA AACTGCCTCCTCGAAGACTGCTCCTTCAAGCCCAAGGAGGCCCAAGGACA ACT	30
Homo	CGTCAATG ACCACA AAGCTTGA GTTTTACA AACTGCAGCCTCGAGCTGCACCTTCAAGCCCGAAGAGGCCCAAGTGA ACT	30

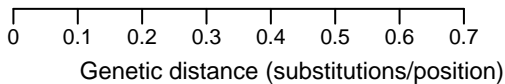
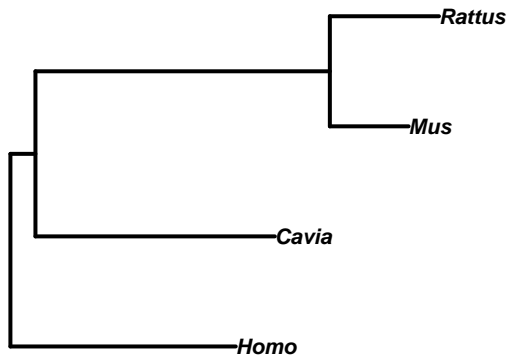
Mus	TCATAGGCTACGTGGACGAGCATGCCTCTGCCCGAATCTCCATCGATGGTCTGACCATGCTGGCCTAIGATCCAGACCA	160
Rattus	TCACAGGCTATGTGGATTGAGCATGCCTCTGCCA GAATCTCCATCGATGGTCTGACCATGCTGGCCTACGACCCAGATCAG	160
Cavia	TCACTGCCTATGTGGACGAGCATGTCTCCGCCGCATCTCAATTGACAATCTCACCATGCTGGCCTACGACCCAGACAAG	160
Homo	TCACTGGCTACGTGGACGAGCATGCCTCCGCCGCATCTCCATCGATGACTCACCATGCTGGTCTACGACCCGACAAG	160

ENSMUSG00000034918 exon 12 (ORF 0)

Mus	GGCGACAATGGTACCTTCCTGCTGTCCCTGAATGGCAAGATGCTGAAGCCTTCAATGTGTCCCAAGAGCGAGCAGCG	80
Rattus	GGTGC CAATGGCAAGTTCCTGCTTCCCTGAATGGCAAGATGCTGAAGCCTTCAAGCTGTCCCAAGAGCGAGCGGCGCT	80
Cavia	GGCAACAAGGCACTTCCTGCTGTCCCTGGGGGCCCCGATGCTGAAGCCTTCAAGCTGTCCCTGGACGGCAGCAGCG	80
Homo	GGCAACAATGGCACTTCCTGTTGTGCTGGGGGCCCCGATGCAAGAGCCTTCAAGCTGTCCCGGAGCGGGCACTGG	80

Mus	GTCTGTCACTGTGCAGTCTTGGTGAGAAACTCAGAGATGCTGGACTATGAGAAGGAGACACTGATGCTTGTGGAG	156
Rattus	GTCTGTCACTGTGCAGTCTTGGTGAGAAATTCAGAGATGCTGGACTATGAGAAGGAGACACTGATGCAAGTGCAG	156
Cavia	CTCAGCCGACGTGCAAGTCTTGGTGAGAAATTCAGAGATGCTGGACTATGAGAAGGAGACACTGATGCTTGGTGCAG	156
Homo	CTCAGCCCTCCGTTCAGGTGCTGGTGAGAGTATCGCCGCTGGTGGACTATGAGAAGGAGACACTGATGCTGGTGCAG	156

ENSMUSG00000034918_intron_11



ENSMUSG00000042185 intron 23

Description: Nuclear factor related to kappa-B-binding protein (Nfrkb)

Intron number: 23

Mouse chromosome: 9

Upstream exon length: 107

Downstream exon length: 136

Mouse intron length: 731

Intron alignment length: 1075

Total murinae branch length: 0.20758

K_score: 0.07054

Scaling factor: 0.6551

ENSMUSG00000042185 exon 23 (ORF 0)

Mus	GGGAAGCTGCCTACCAAGATCACAGTTCTCTTTCTGTGATTAGCCAGCCAAATGAAAGGGCAAGAGCGTGGTCAACAGCCCC	80
Rattus	GGGAAGCTGCCTACCAAGATCACAGTTCTCTTTCTGTGATTAGCCAGCCAAATGAAAGGGCAAGAGCGTGGTCAACAGCCCC	80
Cavia	GGGAAGCTGCCTACCAAGATCACAGTTCTCTTTCTGTGATTAGCCAGCCAAATGAAAGGGCAAGAGCGTGGTCAACAGCCCC	80
Homo	GGGAAGTTGCCTACCAAGATCACAGTTCTCTTTCTGTGATTAGCCAGCCAAATGAAAGGGCAAGAGCGTGGTCAACAGCCCC	80

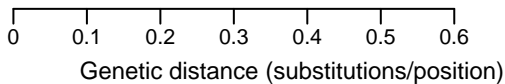
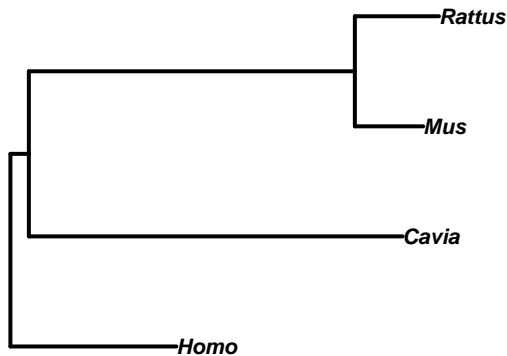
Mus	CATCATCAAAGGCCAACCTTGGAGCCAA	107
Rattus	CATCATCAAAGGCCAACCTTGGAGCCAA	107
Cavia	CATCATCAAAGGCCAACCTTGGAGCCAA	107
Homo	CATCATCAAAGGCCAACCTTGGAGCCAA	107

ENSMUSG00000042185 exon 24 (ORF 1)

Mus	TCTCAGTGGGCTGGGTGGCAACATCATCCTCACGACCATGCCAGCAGGTACCAAAGCTCATTGCTGGCAATAAGCCAGTGA	80
Rattus	TCTCAGTGGGCTGGGTGGCAACATCATCCTCACGACCATGCCAGCAGGTACCAAAGCTCATTGCTGGCAATAAGCCAGTGA	80
Cavia	CCTCAGTGGGCTGGGTGGCAACATCATCCTCACGACCATGCCAGCAGGTACCAAAGCTCATTGCTGGCAATAAGCCAGTGA	80
Homo	CCTCAGTGGGTTGGTGGCAACATCATCCTCACGACCATGCCAGCAGGTACCAACTAAGCTCATTGCTGGCAATAAGCCAGTGA	80

Mus	GTTTCCTCACTGCTCAGCAGTTGCAGCAGCTTCAGCAACAAGGTCAGGCTACACAG	136
Rattus	GTTTCCTCACTGCTCAGCAGTTGCAGCAGCTTCAGCAACAAGGTCAGGCTACACAG	136
Cavia	GTTTCCTCACTGCTCAGCAGTTGCAGCAGCTTCAGCAACAAGGTCAGGCTACACAG	136
Homo	GTTTCCTCACTGCTCAGCAGTTGCAGCAGCTTCAGCAACAAGGTCAGGCTACACAG	136

ENSMUSG00000042185_intron_23



ENSMUSG00000030352 intron 4

Description: Tetraspanin-9 (Tspan9)

Intron number: 4

Mouse chromosome: 6

Upstream exon length: 102

Downstream exon length: 132

Mouse intron length: 551

Intron alignment length: 743

Total murinae branch length: 0.18979

K_score: 0.07622

Scaling factor: 0.65599

ENSMUSG00000030352 exon 4 (ORF 0)

Mus	GTGAACGAGAAATGCCAAGCAGGACCTGAAAGAAGGGGCTGCTGCTGTACAACACAGSAGAACAAACGCTGGGGCTCAAGAAAGCG	80
Rattus	GTGAACGAGAAATGCCAAGCAGGACCTGAAAGAAGGGGCTGCTGCTGTACAACACCTGAGAACAAACGCTGGGGCTCAAGAAATGGCG	80
Cavia	GTGAATGAGAAATGCCAAGCAGGACCTGAAAGGAAGGACTGCTGCTGTACAACACTGAGAACAAACGCTGGGGCTCAAGAAATGGCG	80
Homo	GTGAACGAGAAAGGCCAAGCAGGACCTGAAAGGAAGGACTGCTGCTGTACAACACAGSAGAACAAACGCTGGGGCTCAAGAAAGCG	80

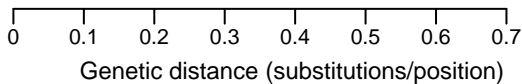
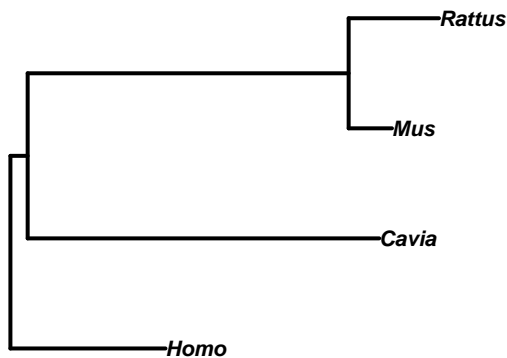
Mus	CTGGAACATCATCCAGGCAGAG	102
Rattus	CTGGAAATCATCATCCAGGCAGAG	102
Cavia	CTGGAACATATCATCCAGGCTGAG	102
Homo	CTGGAACATCATCCAGGCTGAG	102

ENSMUSG00000030352 exon 5 (ORF 0)

Mus	ATGCGGTGTTGTGGGGTCACTGACTACACAGACTGGTATCCGGTGCTCGGGGAGAACACAGTTCCCTGACAGATGCTGCAT	80
Rattus	ATGCGGTGTTGTGGGGTCACTGACTATACAGACTGGTATCCAGTGCTCGGGGAGAACACAGTTCCCTGACCGCTGCTGCAT	80
Cavia	ATGCGATGCTGTGGGGTCACTGACTACACAGACTGGTATCCAGTGCTCGGGGAGAACACAGTTCCCTGACCGTTGCTGCAT	80
Homo	ATGCGATGCTGTGGGGTCACTGACTACACAGACTGGTATCCAGTGCTCGGGGAGAACAGGTTCCCTGACCGCTGCTGCAT	80

Mus	GGAGAATTCCAGGGCTGTGGGCGCAACAGCACCACCCCTTGTGGAGAACG	132
Rattus	GGAGAATTCCAGGGCTGTGGGCGCAACAGCACCACCCCTTGTGGAAAACG	132
Cavia	GGAGAATTCCAGGGCTGTGGGCGAACAGCACTACCCTTGTGGAAAACG	132
Homo	GGAGAACTCCAGGGCTGTGGGCGCAACGCCACCACCCCTTGTGGAGAACG	132

ENSMUSG00000030352_intron_4



ENSMUSG00000006021 intron 11

Description: Kaptin (Kptn)
 Intron number: 11
 Mouse chromosome: 7
 Upstream exon length: 171
 Downstream exon length: 126
 Mouse intron length: 1010
 Intron alignment length: 1087
 Total murinae branch length: 0.10397
 K_score: 0.08895
 Scaling factor: 0.65898

ENSMUSG00000006021 exon 11 (ORF 0)

Mus	T	-----	GGACTGCCAGAGGACAGCAGAGGGCTTCCGCCTGCTGTGGG	GCAGGAGCTTCC	CCAGC	CCCCTGCTGG	68
Rattus	T	-----	GGACTGCCAGAGGACAGCAGAGGGCTTCCGCCTGCTGTGGG	GCAGGAGCTTCC	CCAGC	CCCCTGCTGG	68
Cavia	C	AGCCCTAGAGCCA	GGAGCTGCCAGAGGACAGCAGAGGGCTTCCGCCTGCTGTGGG	GCAGGAGCTTCC	CCAGC	CCCCTGCTGG	80
Homo	GGGCC	CAGAGT	GGAGCTTCC	GCAGGAGCTTCC	CCAGC	CCCCTGCTGG	80

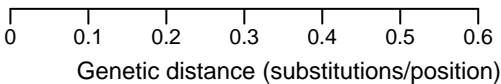
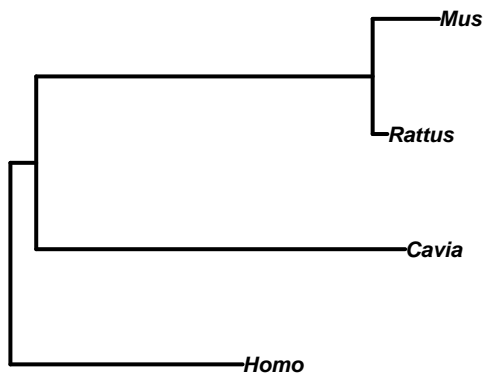
Mus	CCATGGCCCATGTGGACCTGACTGGAGATGGCCTGGGGAGCTGGCCGTGATATCCCTGAAAGGGGTGCACATCCTCCAG	148
Rattus	CCATGGCCCATGTGGACCTGACTGGAGATGGCCTGGGGAGCTGGCCGTGATATCCCTGAAAGGGGTGCACATCCTCCAG	148
Cavia	CCATGGCCCATGTGGATCTGACTGGGGATGGCCTGGAGAGCTGGCTGTGGTCTCCCTGAAAGGGGTGCACATCCTCCAG	160
Homo	CCATGGCTCAGTGGACCTGACCGGGGATGGCCTGGAGAGCTTGGCGTGGTCTCCCTGAAAGGGGTGCACATCCTCCAG	160

ENSMUSG00000006021 exon 12 (ORF 0)

Mus	CACAGCCTGATCCAGGCCTCTGA	ACTGGTCTTGACACGGCTTCGTCATCAAGTGGAGCAGAGGAAACATCAG	- -	CAGGG	77
Rattus	CACAGCCTGATCCAGGCCTCTGAGCTGGTCTTGACACGGCTTCGTCATCAAGTGGAGCAGAGGAAACATCAG	- -	CAGGG	77	
Cavia	CACAGCCTGATCCAGGCCTCTGAGTGGTCTTGACACGGCTTCAGCGC	CAAGTGGAA	CGGATGAAACGGCAGGC	CAAGGG	80
Homo	CACAGCCTGATTCAGGCCTCAGAGCTGGTCTTGACACGGCTTCGATCATCAAGTGGAGCAGAGGAGACGTGCGCT	ACAGGG	80		

Mus	CCTTGGGGACACACTTGGCC	CAGGCCTGTGAAACCCAGCCTCCTGA	126
Rattus	CCTTGGGGACACAGGGGGTCC	CAGACCTGAGGAGCCCCAGCCTCCTGA	126
Cavia	ALCCGGGGACAGGGGGCTCCAGGGCCTGCTGAGAGCA	CAGCCTCCTGA	129
Homo	GTTTGCAGGAGGGGGAGGTGCAAGGCCTGCTGASAA	TCCAGCCTCTTAA	129

ENSMUSG00000006021_intron_11



Mus 110
Rattus 105
Cavia 85
Homo 63
Mus 193
Rattus 188
Cavia 137
Homo 172
Mus 303
Rattus 283
Cavia 186
Homo 237
Mus 354
Rattus 332
Cavia 267
Homo 347
Mus 450
Rattus 427
Cavia 346
Homo 453
Mus 538
Rattus 515
Cavia 456
Homo 484
Mus 629
Rattus 612
Cavia 566
Homo 516
Mus 694
Rattus 677
Cavia 671
Homo 576
Mus 750
Rattus 734
Cavia 781
Homo 644
Mus 776
Rattus 760
Cavia 891
Homo 705
Mus 841
Rattus 827
Cavia 998
Homo 787
Mus 896
Rattus 885
Cavia 1101
Homo 822
Mus 949
Rattus 938
Cavia 1211
Homo 890
Mus 1010
Rattus 1000
Cavia 1308
Homo 987

ENSMUSG00000033105 intron 15

Description: Lanosterol synthase (Lss)

Intron number: 15

Mouse chromosome: 10

Upstream exon length: 150

Downstream exon length: 97

Mouse intron length: 551

Intron alignment length: 437

Total murinae branch length: 0.25776

K_score: 0.07351

Scaling factor: 0.66046

ENSMUSG00000033105 exon 15 (ORF 0)

Mus	GGTGGTTTCTCCTTCAACACACTGGACTGTGGCTGGATCGTTGCTGACTGCACAGCCGAGGCCTTTGAAGGCTGTGCTGCT	80
Rattus	GGTGGTTTCTCCTTCAACACACTGGACTGTGGCTGGATCGTTGCTGACTGCACAGCCGAGGCCTTTGAAGGCTGTGCTGCT	80
Cavia	GGTGGCTTTCTCCTTCACTACCTGGACTGTGGCTGGATCGTTGCTGACTGCACAGCCGAGGCCTTTGAAGGCTGTGCTGCT	80
Homo	GGTGGCTTTCTCCTTCACTACCTGGACTGTGGCTGGATCGTTGCTGACTGCACAGCCGAGGCCTTTGAAGGCTGTGCTGCT	80

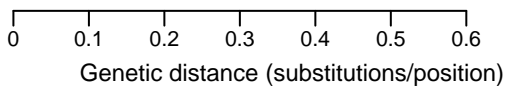
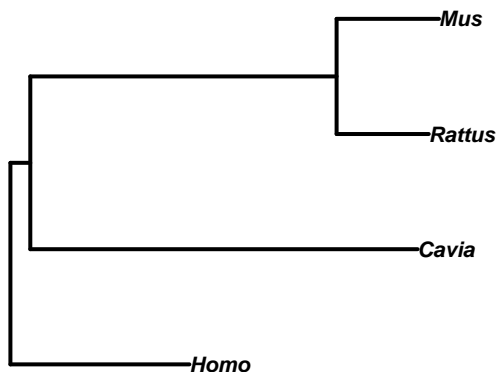
Mus	CCTGCAGAAATCAGTGTCCGTCCATCACTGAGCATAATCCCCGAGAGCGGGCTGTGCGATGCTGTGGATGTG	150
Rattus	CCTGCAGGAGCGGTGTCCCTCAATCACGAGCATAATCCCCAAGAGCGACTCTACAAATGCTGTGGCTGTG	150
Cavia	CCTACAAAGAGAAAGTGTCCCTGTATTGCTGAAGCGCATCCCTCAAGAACGGCTCTGTGATGCGGTGGCTGTG	150
Homo	CCTGCAGGAGAAAGTGTCCCTCATGTCACCGAGCATAATCCCCAAGAGAACGGCTCTGCGATGCTGTGGCTGTG	150

ENSMUSG00000033105 exon 16 (ORF 0)

Mus	TTACTGAGCCTTGAAGAAATCCTGATGGCGGGTTCCGCTACCTATGAGAAAGAGCGTGGGGCTTACTTGCTGGAGCTGCTGAA	80
Rattus	TTGTTGAGCATGAGGAATTCGATGGAGGGTTTCCGCTACCTATGAGACTAAGCGTGGCGGGTATTTGCTGGAGCTGCTGAA	80
Cavia	TTACTGAACATGAGGAATCCTGATGGAGGGTTTCCGCTACCTATGAGACTACACGTGGGGGGCGCTTGCTGGAAATGCTTAA	80
Homo	CTGCTGAACATGAGAAATCCAGATGGAGGGTTCCGCTACCTATGAGACCAGAGCGTGGGGGGCACTTGCTGGAGCTGCTGAA	80

Mus	CCCCTCAGAGGTCTTTG	97
Rattus	CCCCTCAGAGGTCTTTG	97
Cavia	TCCCTCGGAGGTCTTTG	97
Homo	CCCCTCGGAGGTCTTTG	97

ENSMUSG00000033105_intron_15



Mus 61
Rattus 61
Cavia 61
Homo 110
Mus 150
Rattus 137
Cavia 162
Homo 219
Mus 256
Rattus 243
Cavia 266
Homo 275
Mus 362
Rattus 349
Cavia 361
Homo 363
Mus 410
Rattus 400
Cavia 435
Homo 464
Mus 490
Rattus 479
Cavia 523
Homo 574
Mus 551
Rattus 540
Cavia 597
Homo 859

ENSMUSG00000003549 intron 6

Description: DNA excision repair protein ERCC-1 (Ercc1)

Intron number: 6

Mouse chromosome: 7

Upstream exon length: 100

Downstream exon length: 72

Mouse intron length: 675

Intron alignment length: 1238

Total murinae branch length: 0.21467

K_score: 0.04806

Scaling factor: 0.66201

ENSMUSG00000003549 exon 6 (ORF 1)

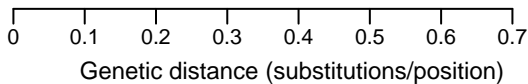
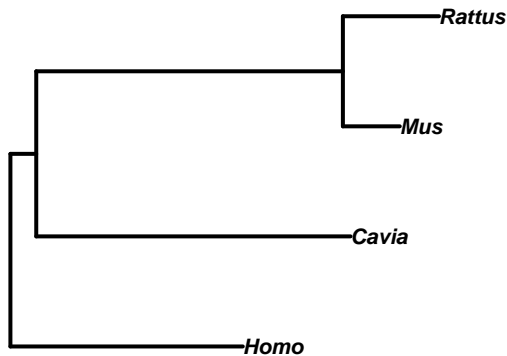
Mus	TGCAGAGGGAAGCAAGGGCGGTACCTGGAGACCTACAAGGGCTATGAGCAGAAAGCCAGCCGACCTCCTTATGGAAAAGCTGG	80
Rattus	TGCAGAGGGAAGCAAGGGCGGTACCTGGAGACCTACAAGGGCTATGAGCAGAAAGCCAGCCGACCTCCTTATGGAAAAGCTGG	80
Cavia	CCCCGAGGGAAGCTGGGCGGTACCTGGAGACCTACAAGGGCTATGAGCAGAAAGCCAGCCGACCTCCTTATGGAAAAGCTGG	80
Homo	CCCCGAGGGAAGCTGGGCGGTACCTGGAGACCTACAAGGGCTATGAGCAGAAAGCCAGCCGACCTCCTTATGGAAAAGCTGG	80

Mus	AGCAGAACTTCCTATCACGG	100
Rattus	AACAGAACTTCCTATCACGG	100
Cavia	AACAGAACTTCCTATCACGG	100
Homo	AGCAGAACTTCCTATCACGG	100

ENSMUSG00000003549 exon 7 (ORF 0)

Mus	GCCACTGAGTGTCTGACCACCGTGAAATCTGTGAACAAAGACTGACAGCCAGACCCTCCTGACTACATTTGGA	72
Rattus	GCCACTGAGTGTCTGACCACCGTGAAATCTGTGAACAAAGACTGACAGCCAGACCCTCCTGACTACATTTGGA	72
Cavia	ATCACTGAATGTCTGACCACAGTGAAGTCAAGTCAACAAAACAGACAGTCAAAACTCTTCTCACTTTTGGG	72
Homo	GTGACTGAATGTCTGACCACCGTGAAAGTCAAGTCAACAAAACAGACAGTCAAGACCCTCCTGACTACATTTGGA	72

ENSMUSG00000003549_intron_6



Mus Rattus Cavia Homo
G T A T C A C T G T G C C T C T T G T C C T C C T G T A C C T C C T G A T C C T C A A T G C C T T C T G G G T 57
G T G A G A A T G G A G C A T G T G T C C T T C T G A C T C C T G A T C C T G T A A T G G C T T C T G G G T 96
G T G A G C C C C A C C C G T G A C C C T C A G T C C T A G G 33
G T G A G C C C A C C T G A G C T C C C A T C C C T G C C T G G C G T C G G C C A G A G T C C T G G 51

Mus Rattus Cavia Homo
C C G G A G C T G G G A T C G A A C C C A G G C C T T G C G C T G C C A G G C A A G G C T C T A G C G C T G A G C T A A A T C C C A A C C 87
G A G C T T G G G C T T T C C A G A G C A A G T C C A C G 206
G G C G T G A G C T G T C G T T G A G C T T C A G T T C C A A T T T T A A G G C A C T T C T C 87

Mus Rattus Cavia Homo
C T T C C C T G T C C G T C C T C C C T C A T C C C C T C C C A A G A G A T T A A 152
G A G G C A T G G T G C C A G T C C T C C C T C A T C C C C T C C T A G C A G T T G A A 275
C A C T C G T G A T C C C A A G C A A G T C T G A C T T T T G C A C C G A A T G G C A G A G A G G A A T T T C C T T T T G T T 150
C A T T C A T C C C T G G C C T C G T T T C C T G G C C A C C C A C G A A A G T G A G G G T T T T T C T T G A C C C A G G C T A T G T T G T G A G G C T 166

Mus Rattus Cavia Homo
A C C C T G C C T C C C T T A G C T C T G A C C C C T A G 183
A C C C T G C C T C C C T T A G C T C T G A C C C C T A G C 306
G G C C T T G A A C T C A T T G A T C C T T G S C T A G C T C C C A G T A G T C C G A G A C A A A G C C A G A C T T C T C A C C A G G C T C A A C A A G 244
C T G C T A C C C T C C C T A G C T C A A A A T C C T C C C A T G C T C C C A G T A G C C G A G A C A A A G C C A G A C T T C T C A C C A G G C T C A A C A A G 250

Mus Rattus Cavia Homo
G T G C C C T C A G A T C T G T G T C T G T G A T C T C T G C T G A A T C C A T G T T T C C A T G C C A G C T G A G S C C T C C C C C T T G A G G A 254
C T G C C C C A G A T C T A T G A T C C T A T T C T C T G C T G A A G C C A T G T T T C C C C C C A G C T T A A G C C C T C C T C A C A G A 385
A G T G C A A A C C T G C T C C T G G A C C G C T G C T C C C A T G G C T C T G A G T G C C T G A G G G C T G G A T G C C C A G C A G G G T T G A C T T G T 344
G G C C G C A G G C T G A G A A G C C C G T G G C T C C A C T T C A C A C T T C A C T T C C C A G G C C T A G C T G C T T C C A A G C A C T 329

Mus Rattus Cavia Homo
A C C C C T C T G A T C C C C T C A G C A A A G A G C C C A A G T G C C A T C C T G A T C C T G C T G A G C A T A G T A C C A G C A C C A C T C A G T G G C C A C T T T T G G A T G T T T G A T A T T A T 374
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T A T T C C T G T G T C T G A G C C A T G A A A A C G G T T T G C T G G C C A A A G G A G C T C T G G C T C C C G C T 415
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Mus Rattus Cavia Homo
T T G T A A A T C A A C T A A T C T T T T C G G A G T A A A A A G G G A C T C A C A T T T C T A T C T T C T G G G T T C T G G G A C T G G G A G T G A C T 460
T T G T A A A T G T A A T G G T T G A T G C T T T T C G G T T A A A A A G G G A C T T A C A T T C T T C T G G G T T C T G A G G C T G G G A G T G A A C T 570
T T T T T T T T T T T G A G A T G G A T C T A C T T C T T T G C C C A G G A G G A A G C A A C A A A G G A G C T 496
T T T T T T T T T T T G A G A T G G A T C T A C T T C T T T G C C C A G C T G G A T G C A A T G A C A T G A T C C G G C T A C 442

Mus Rattus Cavia Homo
G G G T C C T C T G T A G T C C T C T G A G G G C T G T G T G T A T T T C A G T C C T G A G C C A T C T T T G C T C T T T G T G T 525
G C A G T C A G C A G C A A A T T G G C T T A A T C T T T G C A B C C A T T A B C C A G A A T G T G A G C T G T G T G T G T C A C A G C T G C A G A C C C T C A G C C C C T A C T T T 597
T G A A G C T C T G C T G C A B G T T C A A G G A T T C T C T G C T G A G C T C T G A T A G C T G G A T A C A G G T G G C A C A A C C A T G C C T G T C T A A T T T T T C T A T T T T 546

Mus Rattus Cavia Homo
T T C T G A A G A C A G T A T C T C C C C A G G C C C G G T A G C C T G A C C C T G C C T G T G A C C A G G C T G C C C T C A A A C T T T G T G A G G C C C C T C C T 609
T G T T T G A G A C A G T A T C T C C C A G G C C T G C A G C C A T G A C C C T G G C T G A G A T C A G G C T G C C T C A A A C T T G A C G A G C C C T C T A G C A C C T G C T 730
T A G A A A G A T G G G T T T C A G T G T G T G C C A G C C T G C T C T G A T T A T A G T A A C C T T G G G A A A T A T G C A T C C T C C T G G C C T G C C C T G C C A A A G T G C T G G A T T A T T A G G C A T G A G C 654

Mus Rattus Cavia Homo
T T C 612
T T C 733
A C T G C A G C A C C T C T G G G T C T T C C C C T G G G C G G A A T C T G C T C C T G G T T C A T C T G T G T A T T G A T A C C C T T G G C A T T T G G C A T A C T C T G A C A T G G C C T T T A T A T G A T C 805
A C G A C G C C A G C C T G A T G A C T T T T T A T A T C A G T 688

Mus Rattus Cavia Homo
A A G C A C T C G A C T C A C A G G C T G C C C A T G C C C A G C T C C A A G A A A C A 661
T A A G C A C T G G A T T C A G A A G C T G C C C C T A T G C C C A G C T C C C T A G A A A A C A 782
C C C A A G C T A A C G A T T T A T C T S A G A C C T C T G C A T G A T C G A S C C A G G A A G T G G A G C T G C C C C T A T G C C C A G C T C C C T A G A A A A C A 901
T G G G A A A A A A A G G C T T T A T T G A B G C T C C T G C A G C C A B S C A G C T G G G A C A C A C T G T A C C A G C C C T G C C T C C A G G C T A G C T T T G C T G G C C T T T C T T C T T C C 798

Mus Rattus Cavia Homo
T C C T C C C C T T G C A G 675
T G T T T C C C T T G C A G 797
A C C A T C T A C C T C T T C T C C T T C C A G 927
G A C A C A C T C C T G C C T C A C C C T T T C C A G 826

ENSMUSG00000009292 intron 14

Description: Transient receptor potential cation channel subfamily M memb (Trpm2)
 Intron number: 14
 Mouse chromosome: 10
 Upstream exon length: 146
 Downstream exon length: 113
 Mouse intron length: 994
 Intron alignment length: 1141
 Total murinae branch length: 0.20666
 K_score: 0.05854
 Scaling factor: 0.66372

ENSMUSG00000009292 exon 14 (ORF 2)

Mus	GCGTCTTCACTGAGTGTACAGGAAGGATGAGGAAAAGAGCCCAAGAACTGCTTGTCCGTGTGTCTGAGGCCTGGGGGAAAG	80
Rattus	GTSTCTTCAACCGAGTGTACAGAAAGGATGAGGAAAAGAGCCCAAGAACTGCTTGTCCGTGTGTCTGAGGCCTGGGGGAAAG	80
Cavia	GGGTCTTCAACCGAGTGTACAGGAAGGACGAGGAAAGAGCCCAAGAACTGCTTGTCCGTGTGTCTGAGGCCTGGGGGAAAG	80
Homo	GGGTCTTCAACCGAGTGTACAGGAAGGACGAGGAAAGAGCCCAAGAACTGCTTGTCCGTGTGTCTGAGGCCTGGGGGAAAG	80

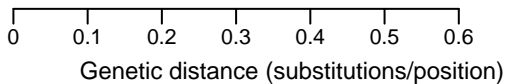
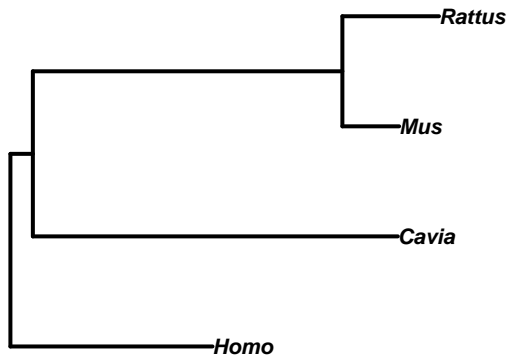
Mus	ACCACCTGCCTGCAGCTGGCCCTAGAGGGCCAAGGACATGAAATTCGTGTCTCATGGAGGCATCCAG	146
Rattus	ACCACCTGCCTGCAGCTGGCCCTAGAGGGCCAAGGACATGAAATTCGTGTCTCACGGAGGATCCAG	146
Cavia	ACCACCTGCCTGCAGCTGGCCCTAGAGGGCCAAGGACATGAAATTCGTGTCTCACGGAGGATCCAG	146
Homo	ACCACCTGCCTGCAGCTGGCCCTAGAGGGCCAAGGACATGAAATTCGTGTCTCACGGAGGATCCAG	146

ENSMUSG00000009292 exon 15 (ORF 0)

Mus	GCTTTCCTAACCAAGGTGTGGTGGGGCCAGCTCTCTGTGGACAATGGCCTGTGGAGGATCATCCTGTGCATGCTGGCCTT	80
Rattus	GCTTTCCTAACCAAGGTGTGGTGGGGCCAGCTCTCTGTGGACAATGGCCTGTGGAGGATCATCCTGTGCATGCTGGCCTT	80
Cavia	GCTTTCCTAACCAAGGTGTGGTGGGGCCAGCTCTCTGTGGACAATGGGATGTGGCAAGTCCATCCTGTGTATGCTGGCCTT	80
Homo	GCTTTCCTAACCAAGGTGTGGTGGGGCCAGCTCTCTGTGGACAATGGGCTGTGGCCTGTGTATGCTGGCCTT	80

Mus	CCCGCTGCTCTTCAACCGGCTTCATCTCCTTCAG	113
Rattus	CCCTCTGCTCTTCAACCGGCTTCATCTCCTTCAG	113
Cavia	CCCGCTGCTCTTCAACCGGCTTCATCTCCTTCAG	113
Homo	CCCGCTGCTCTTCAACCGGCTTCATCTCCTTCAG	113

ENSMUSG00000009292_intron_14



ENSMUSG00000039662 intron 1

Description: Protein-S-isoprenylcysteine O-methyltransferase (Icmt)

Intron number: 1

Mouse chromosome: 4

Upstream exon length: 195

Downstream exon length: 89

Mouse intron length: 1116

Intron alignment length: 1263

Total murinae branch length: 0.16615

K_score: 0.0639

Scaling factor: 0.66729

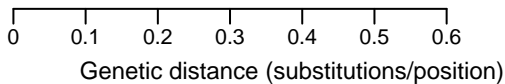
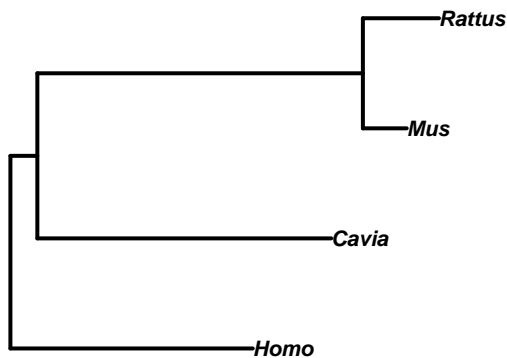
ENSMUSG00000039662 exon 1 (ORF 0)

Mus	CGAGGGCGCGCCTCAGCCTCGCTACATTTCCTGGGGCGCTCGGTGCTCGCTCTGCCGCTGCTCAGCGCGCGCGCGCTGC	80
Rattus	CGAGGGCGCGCCTCAGCCTCGCTACCTTCCTGCTGGTGGCTCGGTGCTCGCTCTGCCGCTGCTCAGCGCGCGCGCGCTGC	80
Cavia	CGAGGGCGCGCCTCAGCCTCGCTACCTTCCTGCTGGTGGCTCGGTGCTCGCTCTGCCGCTGCTCAGCGCGCGCGCGCTGC	80
Homo	TGAGGGCGCGCTCAGCCTCGCTACCTTCCTGCTGGTGGCGCTCGGTGCTCGCGCTGCCGCTGCTCAGCGCGCGCGCGCTGC	80
Mus	AGGGCCGCACCGGGCTGGCGCTCTACGTGGCCGGACTCAACGGCGCTGCTGCTGCTACTCTACCGGGCGCGCGCGCTACCA	160
Rattus	AGGGCCGCACCGGGCTGGCGCTCTACGTGGCCGGACTCAACGGCGCTGCTGCTGCTACTCTACCGGGCGCGCGCGCTACCA	160
Cavia	AGGGCCGCACCGGGCTGGCGCTCTACGTGGCCGGACTCAACGGCGCTGCTGCTGCTACTCTACCGGGCGCGCGCGCTACCA	160
Homo	AGGGCCGCACCGGGCTGGCGCTCTACGTGGCCGGACTCAACGGCGCTGCTGCTGCTACTCTACCGGGCGCGCGCTACCA	160

ENSMUSG00000039662 exon 2 (ORF 0)

Mus	ATAGCCATCAGAGCTTGTTCCTTGGCTTTGTGTTGGCTGTTGGTGTGCTGCTAAAGTTTCAAGCCAGTCCTCTTGAATCA	80
Rattus	ATAGCCATCCGAGCTTGTTCCTTGGCTTTGTGTTGGCTGCGGCGTGCTGCTAAAGTTTCAAGCCAGTCCTCTTGAATCA	80
Cavia	ATAGCCATCCGAGCTTGTTCCTTGGCTTTGTGTTGGCTGCGGCGTGCTGCTAAAGTTTCAAGCCAGTCCTCTTGAATCA	80
Homo	ATAGCCATCCGAGCTTGTTCCTTGGCTTTGTGTTGGCTGCGGCAAGCTGCTAAAGTTTCAAGCCAGTCCTCTTGAATCA	80
Mus	CTTTGGCTG	89
Rattus	CTTTGGCTG	89
Cavia	CTTTGGCTG	89
Homo	CTTTGGCTG	89

ENSMUSG00000039662_intron_1



ENSMUSG00000032079 intron 2

Description: Apolipoprotein A-V Precursor (Apoa5)

Intron number: 2

Mouse chromosome: 9

Upstream exon length: 100

Downstream exon length: 967

Mouse intron length: 442

Intron alignment length: 564

Total murinae branch length: 0.23879

K_score: 0.05467

Scaling factor: 0.66747

ENSMUSG00000032079 exon 2 (ORF 2)

Mus	TGTTTCGCAAGCAGCTCAGGCACGGAAAGAGCCTCTGGGACTACTTCAGCCAAACAGTTGGAACAAAGGCGTGATGGG - - - 76
Rattus	TGTTTTCGCAACTGTACAGGCAGGGAAAGAGCTTCTGGGAGTACTTCAGCCAGAACAGGCAAGGCAGAAAGGCATGATGGG - - - 76
Cavia	CATTGCTCAGCCAGCCAGGCACAGAAAGAGCTTCTGGGAGTACTTCAGCCAGAACAGGCAAGGCAGAAAGGCATGATGGG - - - 80
Homo	CGTTTTTCGGCCAGCCAGGCACGGAAAGAGCTTCTGGGACTACTTCAGCCAGAACAGGCAAGGCAGAAAGGCAGGTTGGAGGAAG 80

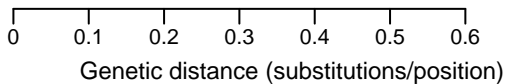
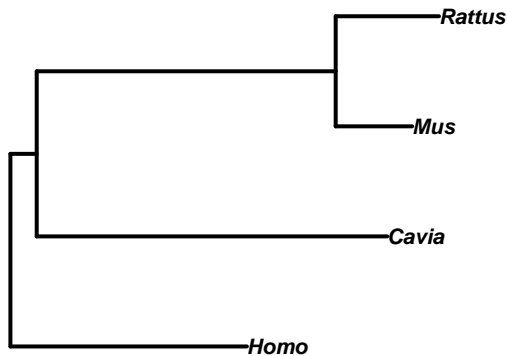
Mus	- - CCAGCCACAGAAAGCTGGCACAGGA- - - - - 100
Rattus	- - CCAGCAGCAGAAAGCTGGCACAGGA- - - - - 100
Cavia	ATCCAGCAGCAGAAAGCTGGCACAGGACACCG 112
Homo	ATCCATTAGCAGAAAGATGGCTGCCGAGCCCG 112

ENSMUSG00000032079 exon 3 (ORF 1)

Mus	GAACTGAAAGGCAGCTTCGAGCAAGACCTCTACAAATATGAACAATTACCTAGAAAAGCTGGGACCCCTTGAGAGGGCCT 80
Rattus	GAGCCTGAAAAGTACGCTTCGAGCAAGACCTCTACAAATATGAACAATTTCTAGAAAAGCTGGGACCCCTTGAGAGAGCCT 80
Cavia	GAGGCTGAAAAGACAGCTTCGAGCAGGACCTCAGCAGATATGAACAATTTCTGGAAGAGCTGGGCCCTGAGTGGGAGG 80
Homo	GACCTGAAAGACAGCTTCGAGCAAGACCTCAGCAATATGAACAAGTTCTGGAAGAGCTGAGGCTCTGAG - - - - - 74

Mus	GGAAGGAGCCTCTCTGGCCAGGACCCAGAAAGGCATTCGGAAACAGCTGCAGCAGGAGCTGGGGGAAGTGAAGT 160
Rattus	GGAAGGAGCCTCTCTGGCTGGCACAGGATCCAGAAAGGCATTCGGAAAGCAGTTGCAGCAAGAGCTGGAGGAAGTGAAGCA 160
Cavia	GGAACAGCCTCTCTGAGCAGGAGGAGGAGCAGCAGCTGCAGCAGGAGCTGGAGGAGTGGAGGAGGTGGGGCT 154
Homo	GGAGCTGAGGCTCTCTGGCTCCACAGGACCCGGTGGGATTCGGCGGCAGCTGCAGCAGGAGTTGGAGGAGGTGAAGCT 154

ENSMUSG00000032079_intron_2



Mus	G T A A G T A G C C T G G G C A A G G C - - T C T G C T G A G G C C A G A G A C A G C C T A C T G T G G A T G A T C C C T T G G C T C T G T G G T A A C A T G G A A G C T G A A G C A	93
Rattus	G T A A G T A G C C T G G G C A A G G C - - T C T G T G A G G T A C G A G A C A G C C T A C T G T G G A T G A T T C C T C A G C T C G G T A G T T A A C A G A G A C T C C A C T G A	93
Cavia	G T G A G T A G C C A G G G C A A G G C A T G G C C T G A G G C G A T G A G A C A G C T G G G C C C A A G C C T G	90
Homo	G T G A G T G C C A G G G C A A G G G C T G T A G G C G A G G S A G A G A C A G C T G G G C A T G C C A T G A T G A C C T G C C T G C T G C C T A A G C T C T G T G C C G C T G C T G C G A B A G A G C A M	110
Mus	A C C A G C C C T C C C T A T A G A A C C A A A G A C A C C T C A G T A T C T T G C G A G C C T C T T G T C C A A G T T T C T G C T G C C	164
Rattus	. . . . . C C A G C C C T C C C T A T A G A A C C A A A G A C A C C T C A G T A T C T T G C G A G C C T C T T G T C C A A G T T T C T G C T G C C	93
Cavia	. . . . . C C A G C C C T C C C T A T A G A A C C A A A G A C A C C T C A G T A T C T T G C G A G C C T C T T G T C C A A G T T T C T G C T G C C	108
Homo	A G G A G C G G T G C T A G C C T C T C T G C A G A T C C C G G C C A T C C T G G C C T C T T A G C C C C T C C T C C T A T G G G T G T G C T T G C C G G C T G	220
Mus	. . . . . C A T G G C A C C T G A G A T A G C A T C C C A C A G A A T G A C A A G A T G G T G T G A T C T T G C C G T C T G T G T G T G A C A C C	234
Rattus	. . . . . C A T G G C A C C T G A G A T A G C A T C C C A T A G A A T G G C A A G G T G G T G T G A C T A T T G C C A T C C G T A T G A C A C C T T C T T G G A T G G G T G A C A C C	160
Cavia	. . . . . A G T G A C C T G T A A G C T G T G C C G A G G T G C T C C A A T T C T C C A G C T G T G T G C A C T A T G T	136
Homo	G A G G G C G C G C A C C T G C G A T C A T C C G G A G G A C G C C G C T G C A G T C C C A G A A T C A A G G A T G A T G T G C C G C A C T A T G T T	300
Mus	T T C T T G G A T G G T A T T G T A A G A C C G A A T G C C A T T T T G T C T T C T G A A T G T A A C A A T G A A G T T G G C T G G G T C A G G A C T A A A G A L C C A G G C T C T G G G C C	329
Rattus	T T C T T G G A T G G T A T T G T A A G A C C G A A T G C C T T T T G T C C C T G A A T G T A A T G A T G C A G T T G G T T G G G T C A G G A C T A A A G A C C T A G G C T C T G A G C C	256
Cavia	. . . . . A G T G A C C T G T A A G C T G T G C C T C C A T G T G G A C T T G G T G T T G T G T C A G G C T A G G A C T A G A G A G C C T G G G T G G G A G	218
Homo	T C T T T G G A G A T C T G T A G G T C T G A T T T G T A T G G G C A A T G G C T T G T C C T T G T G G G T G A G T T G T A T G G G C A G G C T A G G A C A A G A G C C T C A A C C T G G G C C	406
Mus	C A - C T C G T C C T G C C T G G C T T C T C C A A A A T A T T A G T G T C C A C A G C T T T G G G A A A G G G A G A T T T C A A T G C T A G C A G I C T A A T G G C C T G A T T C T C T G C T	428
Rattus	C A - T T C T T C C T G C C C T G G T T T G C C A G A S T A T G G T G T C C A C A G C T A A G G G A A A G G A G A T T T C A A G G C T A G C G G T C T A A T G G C C T G S T T C T G T C T	353
Cavia	C C - A C G G C C A A C C C A T A T G C T A A G T T T C G C T A G A T C A G T C C T G A G A T C C C C A G G G A A A A G A G A T G A T G G G T T A G C G C T T G A T G G T C T G	311
Homo	C A A C G C C C T G C T T G G T T C C C C A G A G A T C A G T G C G C G A T G A C T T T G G G A C A A A G A G A T G A T T G C A G G C T A G C A G T C T G A C G G C C T G G A T A T C T	504
Mus	T T C T C C T T C C C A G	442
Rattus	T T C T C C T T C C C A G	367
Cavia	T T C T C T T T C C C A G	324
Homo	G T G C C C T T C C C A G	518

ENSMUSG00000053024 intron 5

Description: Contactin-2 Precursor (Cntn2)

Intron number: 5

Mouse chromosome: 1

Upstream exon length: 210

Downstream exon length: 100

Mouse intron length: 281

Intron alignment length: 338

Total murinae branch length: 0.20933

K_score: 0.07051

Scaling factor: 0.66776

ENSMUSG00000053024 exon 5 (ORF 2)

Mus	GATGGGCGTCACTTCGTGTCCAGACACAGGGAACCTGTACATCGCCCGCACCAATGCCTCGGACCTGGGCAACTACTC	80
Rattus	GATGGGCGTCACTTCGTGTCCAGACACAGGGAACCTGTACATCGCCCGCACCAATGCCTCGGACCTGGGCAACTACTC	80
Cavia	GATGGGCGTCACTTCGTGTCCAGACACAGGGAACCTGTACATCGCCCGCACCAATGCCTCGGACCTGGGCAACTACTC	80
Homo	GATGGGCGTCACTTCGTGTCCAGACACAGGGAACCTGTACATCGCCCGCACCAATGCCTCGGACCTGGGCAACTACTC	80

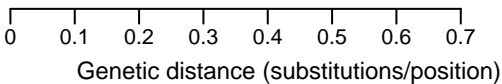
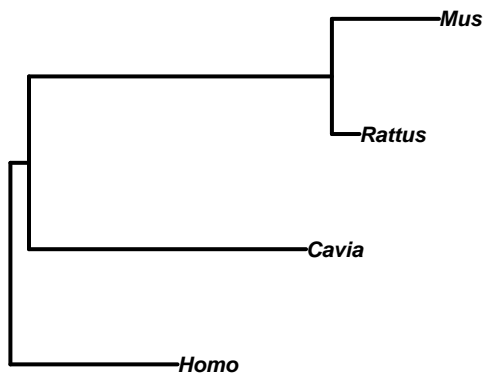
Mus	TTGCCTTGGCTACCAGCCACCTGGACTTCTCCACCAAGAGCGTCTTCAGCAAATTCGGCAGCTCAACCTGGCTGCTGAA	160
Rattus	TTGTTTGGCTACCAGCCACATGGACTTCTCCACCAAGAGCGTCTTCAGCAAATTCGGCAGCTCAACCTGGCTGCTGAA	160
Cavia	CTGCCTTGGCTACCAGCCACATGGACTTCTCCACCAAGAGCGTCTTCAGCAAATTCGGCAGCTCAACCTGGCTGCTGAA	160
Homo	CTGTTTGGCTACCAGCCACATGGACTTCTCCACCAAGAGCGTCTTCAGCAAATTCGGTTCAGCTCAACCTGGCTGCTGAA	160

ENSMUSG00000053024 exon 6 (ORF 2)

Mus	ATCCTCGACTCTTTGCTCCAGTATCAAAGCCCGGTTCCCGCCAGAGACGTACGCACCTGTTGGGCAGCAGGTCAACCTG	80
Rattus	ATCCCCGACTCTTCGCTCCAGTATCAAAGGCTCGGTTCCCGCCAGAGACCTACGCACCTAGTTGGGCAGCAAGTCAACCTG	80
Cavia	ATCCCCGCTTTTTCACCCAGCATCAAAGGCCCGGTTCCCTGCAGAGACCTATGCACCTGTTGGGCAGCAGGTCAACCTG	80
Homo	ATATCCCCGCTCTTTGCACCCAGCATCAAAGGCCCGGTTCCGAAGCAGAGACCTATGCACCTGTTGGGCAGCAGGTCAACCTG	80

Mus	GAGTGCCTTTGCCCTTTGGAA	100
Rattus	GAGTGCCTTTGCCCTTTGGAA	100
Cavia	GAGTGCCTTTGCCCTTTGGAA	100
Homo	GAGTGCCTTTGCCCTTTGGAA	100

ENSMUSG00000053024_intron_5



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Mus      GTCAGGATC-----TAGGTTAATGGA--GGCTGAAAGGGTCAATAGGCCTTGGAGAAAAGGTATCTACC--AAGCTTAAGAATTGCAGCTCAGGATATA 92
Rattus  GTCAGGATC-----TAGGTTAATGGAGGGGGCTGAAAGATTACAGGGCTTGGGAAATGGTCTCCACC--AAGCCTAAGAACCAGCAGCTCA-----AT 89
Cavia   GTCAGGCTCTTTGCGGAGTAAAGGAGGAGG-----GGGAGGAGG-----TTGGAAAAAGGATTCCTTTGTAATGGTAAAGAGCAGCTCATGGCCAT 84
Homo    GTCAGGCTTT--GGCGAGGGCTGGTGCAGCAGGGGAAGCTGCAAGGGTCAAGCGGGAATAGGAAAAAGGTTTTTCCTTTGAGATTGCAAGATCAGGCTGCAGGGCACT 106

Mus      -----GAGGTCCTGCTGCCGGGCTCAGATCCTTGCCCGAGGCCCCCG-AGAAAAGAGAGAACTTTGGAGATTCCAAAATATTTATGTTGTTGA 178
Rattus  -----TCGGGCGGCTGCGAGGCTCAGAGCCTTGCCCGAGGCCCGGA-CGGAAAAGGGAATGTTGGAGATTCCAAAAGATTTATTTGGAGA 175
Cavia   -----GAGGTCCTGCTGCCGGGCTCAGATCCTTGCCCGAGGCCCCCG-AGAAAAGAGAGAACTTTGGAGATTCCAAAATATTTATGTTGTTGA 180
Homo    GATTCCAAGGCCCTGAGCAGCCGAGATCCTCCTGCTTCAAAATCTTAGGCCCTTGCCCGAGGCCCTGAAA-----GGAGATTCCACAAGCTTGCCTAGACA 198

Mus      TCTGTGAACCTTTGGAAGGCAT-----GGGCCCTAATACAAAG---CACCTCCCTGGAGCGCTTTGCATGTGTTCAACAGTCAATCTCTCTCTCCCTCCAC 273
Rattus  TTTCAAGAGCTTTGGAAGGCAT-----GGGCCCTA-CACAAAG---CACCTCCCTGGAGCTTTTGTATGATTCAACAACCTCTCTCTCTCTCCCTCCAC 264
Cavia   -CACAAAGCTCCAAAGGCTCTGCTTCTGAAATCCTGAGCACCAGAGCCAAGCCCTCCCTGGAGTCA-CGGCATGTGATTTGCAAGGCCCTTCTCTCC- 277
Homo    -GAGTTGGCTCTGAAAGGTGCTGAGATCCCATTCACAGGGCAGCACCTGA-----CCTGGAGTCACTGCACTGATTTGTAAGCCCTCTCTCC----- 286

Mus      CCCCCCAG 281
Rattus  -----CAG 267
Cavia   -----CAG 280
Homo    -----CAG 289

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ENSMUSG00000015971 intron 2

Description: Actin-related protein 8 (Actr8)

Intron number: 2

Mouse chromosome: 14

Upstream exon length: 171

Downstream exon length: 111

Mouse intron length: 1260

Intron alignment length: 1772

Total murinae branch length: 0.18658

K_score: 0.08644

Scaling factor: 0.66793

ENSMUSG00000015971 exon 2 (ORF 0)

Mus	CAACTTTCATTGTTGTACATACCCAGGTTCAACAACCTCTAAGAATTGGCCGAGCCACAGATACACTTCCGTTCAAGTCTT	80
Rattus	CAACTTTTATTGTTGTCATACATCCAGGCTCAACAACCTTAAAGAATTGGCCGAGCCACAGACACTCCAGCCAGGATT	80
Cavia	CAACTTTATTGTTGTCATACATCCAGGCTCAACAACCTTAAAGAATTGGCCGAGCCACAGACACTCCAGCCAGGATT	80
Homo	CAACTTTCATCAATTGTCATACATCCAGGTTCAACAACCTTAAAGGATTGGTCGAGCCACAGACACTCTTCTTGCCAGCATT	80

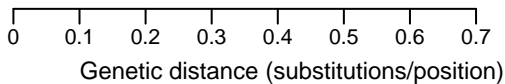
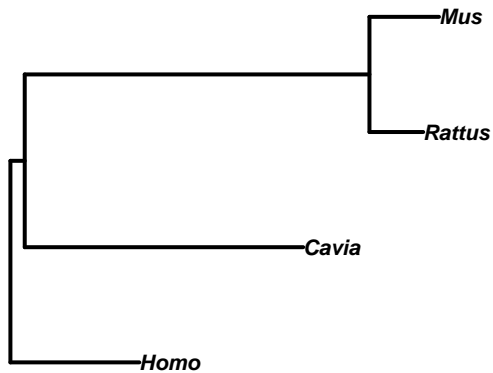
Mus	CTCACGTCATTGCACTGAAGACACAACAACAAGGGCAGCCCTGTACAAGGACAACCTGGCTCCTAAGGGAAGGACTAAAT	160
Rattus	CTCACGTCATTGCTCTGAGACACAACAACAAGGGCAGCCCTGTACAAGGACAACCTGGCTCCTAAGGGAAGGACTAAAT	160
Cavia	CTCACGTCATTGCTCTGAGACACAACAACAAGGGCAGCCCTGTACAAGGACAACCTGGCTCCTAAGGGAAGGACTAAAT	160
Homo	CTCACGTCATTGCCCGAAGACACAACAACAAGGGCAGCCCTATACAAGGACAAGTTGGCTCCTAAGGGAAGGACTAAAT	160

ENSMUSG00000015971 exon 3 (ORF 0)

Mus	AAACCTGAAAGTAAATGAACAAAGACAAAATGGCCTTAAAATGGTGGATCAAGGCAATATGGTCTAAAAAAGATGTCAAACGG	80
Rattus	AAACCTGAAAGTAAATGAACAAAGACAAAATGGCCTTAAAATGGTGGATCAAGGCAATATGGTCTAAAAAAGATGTCAAACGG	80
Cavia	AAACCTGAAAGTAAATGAACAAAGACAAAATGGCCTTAAAATGGTGGATCAAGGCAATATGGTCTAAAAAAGATGTCAAATGG	80
Homo	AAACCTGAAAGTAAATGAACAAAGACAAAATGGCCTTAAAATGGTGGATCAAGGCAATATGGTCTAAAAAAGATGTCAAATGG	80

Mus	TACAAGGCGGATCCCTGTGTCAACCAGAACAG	111
Rattus	TACAAGGCGGATCCCTGTGTCAACCAGAACAG	111
Cavia	TACAAGGCGGATCCCTGTGTCAACCAGAACAG	111
Homo	TACAAGGCGGATCCCTGTGTCAACCAGAACAG	111

ENSMUSG00000015971_intron_2



ENSMUSG00000030872 intron 10

Description: ADP-ribosylation factor-binding protein GGA2 (Gga2)

Intron number: 10

Mouse chromosome: 7

Upstream exon length: 126

Downstream exon length: 90

Mouse intron length: 705

Intron alignment length: 1237

Total murinae branch length: 0.17685

K_score: 0.06964

Scaling factor: 0.66861

ENSMUSG00000030872 exon 10 (ORF 2)

Mus	CGGAGATTCTTCAA	GCAAATGACCTTCTCACA	CAGGGG	GTTTGGCTGT	ACAAACAGGTGGT	GGAGGGCCGAGTTA	GTGCT	80
Rattus	CGGAGATTCTTCAA	GCAAATGACCTTCTCACA	CAGGGG	GTTTGGCTGT	ACAAACAGGTGGT	GGAGGGCCGAGTTA	GTGCT	80
Cavia	CGGAGATTCTTCAA	GCAAATGACCTTCTCACA	CAGGGG	GTTTGGCTGT	ACAAACAGGTGGT	GGAGGGCCGAGTTA	GTGCT	80
Homo	CGGAATTCTTCAA	GCAAATGACCTTCTCACC	AAGGAGTTTCTGCTGT	ACAAACAGGTGGT	GATGGAGGGCCG	GTGCA	CTTT	80

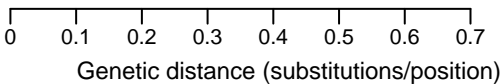
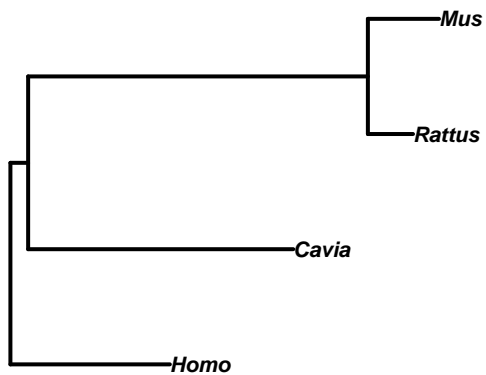
Mus	GGGAACGCAGTGC	CTGCCG	CAGTGGGAGCC	ATTCCG	CCG	CCAGAG	126
Rattus	GGGAATGCAGTGC	CTGCCG	CAGTGGGAGCC	ATTCCG	CCG	CCAGAG	126
Cavia	GGGAGCACAGTGA	CCAGCT	CAGTGAAGACAC	ACCTGT	CTCCAGAG	126	
Homo	GGAAACAGAGTGA	CCAGCT	CATTGGGAGACAT	CCCTGT	CTCCAGAG	126	

ENSMUSG00000030872 exon 11 (ORF 2)

Mus	CATTCCCGAATCC	AGAACCCTGT	GGTTGA	ACTGTC	CACTCATT	GACCTGGA	-----	52					
Rattus	TGTTCCCGAGTCC	AGAACCCTGT	GGGAAGA	ACTGCC	CTCATT	GACCTGGA	-----	52					
Cavia	TCTTCCAGAA	CCAGCAG	CAGCAT	GAAGA	ATTGCC	CTTGATT	GACCTGGA	GGTGGACA	ATTGGC	CCTGAG	GCAG	CTGGG	80
Homo	TCTTCCAGAA	CCAGCAG	CAGCAT	GAAGA	CTGCC	CTTGATT	GACCTGGA	GGTGGACA	ATTGGC	CCTGAG	GCAG	CTGGG	80

Mus	-----	GACGCC	ATCTTT	GTTTCAT	CAGGACCT	GGCAGC	TTAG	90
Rattus	-----	GGCACC	ATCTTT	GTTTCAT	CAGGACCT	GGCAGC	TTAG	90
Cavia	TCTGTGGC	ACCATCTTT	GTTTCAT	CAGGAC	TTGGCA	GCCTTAG	123	
Homo	ACTGTGGT	GCCATCTTT	GTTTCAT	CAGGAC	TTGGCA	GCCTTAG	123	

ENSMUSG00000030872_intron_10



ENSMUSG00000030374 intron 16

Description: Striatin-4 (Strn4)
 Intron number: 16
 Mouse chromosome: 7
 Upstream exon length: 87
 Downstream exon length: 170
 Mouse intron length: 1091
 Intron alignment length: 1532
 Total murinae branch length: 0.17999
 K_score: 0.06173
 Scaling factor: 0.67261

ENSMUSG00000030374 exon 16 (ORF 2)

Mus	G	T	A	A	A	T	C	T	G	T	G	C	A	T	T	C	C	A	T	G	G	T	G	C	C	A	C	C	T	G	C	C	T	A	G	C	T	G	T	G	G	A	C	C	C	A	A	T	G	G	C	G	T	G	T	T	C	T	T	G	A	T	C	G	80
Rattus	G	T	A	A	A	T	C	C	G	T	G	C	A	T	T	C	C	A	T	G	G	T	G	C	C	A	C	C	T	G	C	C	T	A	G	C	T	G	T	G	G	A	C	C	C	A	A	T	G	G	C	G	T	G	T	T	C	T	T	G	A	T	C	G	80
Cavia	G	T	A	A	A	T	C	C	G	T	G	C	A	T	T	C	C	A	T	G	G	T	G	C	C	A	C	C	T	G	C	C	T	A	G	C	T	G	T	G	G	A	C	C	C	A	A	T	G	G	C	G	T	G	T	T	C	T	T	G	A	T	C	G	80
Homo	G	T	A	A	A	T	C	C	G	T	G	C	A	T	T	C	C	A	T	G	G	T	G	C	C	A	C	C	T	G	C	C	T	A	G	C	T	G	T	G	G	A	C	C	C	A	A	T	G	G	C	G	T	G	T	T	C	T	T	G	A	T	C	G	80

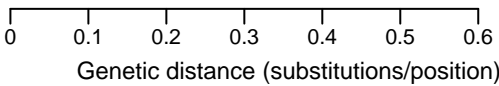
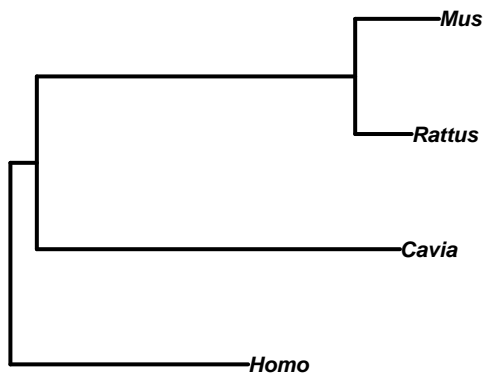
Mus	T	C	A	G	G	A	A	87
Rattus	T	C	A	G	G	A	A	87
Cavia	T	C	A	G	G	A	A	87
Homo	T	C	A	G	G	A	A	87

ENSMUSG00000030374 exon 17 (ORF 2)

Mus	G	C	C	A	T	G	A	C	T	G	T	T	C	T	C	T	G	C	G	T	T	A	T	G	G	A	G	C	T	A	G	A	C	A	A	A	A	G	A	C	A	T	G	T	G	T	G	C	A	G	G	A	G	A	T	C	A	C	G	G	C	C	C	A	C	C	G	A	A	G	A	G	C	A	T	G	80
Rattus	G	C	C	A	T	G	A	C	T	G	T	T	C	T	C	T	G	C	G	T	T	A	T	G	G	A	G	C	T	A	G	A	C	A	A	A	A	G	A	C	A	T	G	T	G	T	G	C	A	G	G	A	G	A	T	C	A	C	G	G	C	C	A	C	C	G	A	A	G	C	A	T	G	80			
Cavia	G	C	C	A	T	G	A	C	T	G	T	T	C	T	C	T	G	C	G	T	T	A	T	G	G	A	G	C	T	A	G	A	C	A	A	A	A	G	A	C	A	T	G	T	G	T	G	C	A	G	G	A	G	A	T	C	A	C	G	G	C	C	A	C	C	G	A	A	G	C	A	T	G	80			
Homo	G	C	C	A	T	G	A	C	T	G	T	T	C	T	C	T	G	C	G	T	T	A	T	G	G	A	G	C	T	A	G	A	C	A	A	A	A	G	A	C	A	T	G	T	G	T	G	C	A	G	G	A	G	A	T	C	A	C	G	G	C	C	A	C	C	G	A	A	G	C	A	T	G	80			

Mus	G	A	G	G	A	G	C	C	A	T	C	C	A	T	G	C	T	G	C	T	G	C	A	T	G	G	C	T	G	C	C	A	T	G	C	A	T	G	G	T	G	C	T	G	A	T	G	C	C	T	A	G	C	C	A	A	G	G	T	160
Rattus	G	A	G	G	A	G	C	C	A	T	C	C	A	T	G	C	T	G	C	T	G	C	A	T	G	G	C	T	G	C	C	A	T	G	C	A	T	G	G	T	G	C	T	G	A	T	G	C	C	T	A	G	C	C	A	A	G	G	T	160
Cavia	G	A	G	G	A	G	C	C	A	T	C	C	A	T	G	C	T	G	C	T	G	C	A	T	G	G	C	T	G	C	C	A	T	G	C	A	T	G	G	T	G	C	T	G	A	T	G	C	C	T	A	G	C	C	A	A	G	G	T	160
Homo	G	A	G	G	A	G	C	C	A	T	C	C	A	T	G	C	T	G	C	T	G	C	A	T	G	G	C	T	G	C	C	A	T	G	C	A	T	G	G	T	G	C	T	G	A	T	G	C	C	T	A	G	C	C	A	A	G	G	T	160

ENSMUSG00000030374_intron_16



ENSMUSG00000027340 intron 14

Description: Solute carrier family 23 member 2 (Slc23a2)

Intron number: 14

Mouse chromosome: 2

Upstream exon length: 96

Downstream exon length: 233

Mouse intron length: 1298

Intron alignment length: 2615

Total murinae branch length: 0.17163

K_score: 0.07946

Scaling factor: 0.67333

ENSMUSG00000027340 exon 14 (ORF 2)

Mus	G	A	A	T	A	A	C	A	G	G	A	A	T	C	G	A	C	C	A	A	A	T	C	T	G	A	A	T	G	T	C	T	T	C	T	C	A	C	C	A	C	G	G	C	T	A	T	G	T	T	G	T	A	G	G	A	G	G	C	T	G	T	G	T	G	G	C	T	T	C	A	T	T	T	T	C	80
Rattus	G	A	T	A	A	C	A	G	G	C	A	T	T	G	A	T	C	A	A	G	T	C	T	G	A	A	T	G	T	C	T	T	C	T	C	A	C	C	A	C	T	G	C	T	A	T	G	T	T	G	T	A	G	G	A	G	C	T	G	T	G	G	C	T	T	T	A	T	T	T	T	C	80				
Cavia	G	G	A	T	A	A	C	A	G	G	A	A	T	C	G	A	T	C	A	A	G	T	C	T	T	G	A	A	T	G	T	C	T	T	C	T	C	A	C	A	C	T	G	C	T	A	T	G	T	T	G	T	A	G	G	C	T	G	T	G	G	C	T	T	T	A	T	C	C	T	G	80					
Homo	G	G	A	T	A	A	C	A	G	G	A	A	T	C	G	A	T	C	A	A	G	T	C	T	T	G	A	A	T	G	T	C	T	T	C	T	C	A	C	A	C	T	G	C	T	A	T	G	T	T	G	T	A	G	G	C	T	G	T	G	G	C	T	T	T	A	T	C	C	T	G	80					

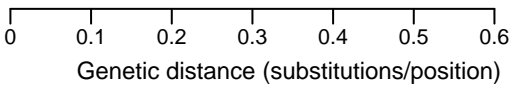
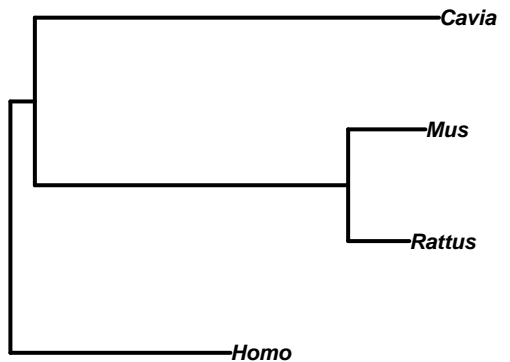
Mus	G	A	C	A	A	C	A	C	C	A	T	C	C	C	A	G	96
Rattus	G	A	C	A	A	C	A	C	C	A	T	C	C	C	A	G	96
Cavia	G	A	C	A	A	C	A	C	C	A	T	C	C	C	A	G	96
Homo	G	A	T	A	A	C	A	C	C	A	T	C	C	C	A	G	96

ENSMUSG00000027340 exon 15 (ORF 2)

Mus	G	T	A	C	C	C	A	G	A	G	A	A	A	G	A	G	A	A	T	C	A	A	G	A	A	T	G	G	A	A	G	A	G	G	T	G	T	G	A	G	C	A	A	A	G	A	A	G	C	A	A	G	A	A	G	C	A	A	G	T	C	T	C	T	G	A	C	G	G	C	A	T	G	S	A	G	T	C	80
Rattus	G	T	A	C	C	C	A	G	A	G	A	A	A	G	A	G	A	A	T	C	A	A	G	A	A	T	G	G	A	A	G	A	G	G	T	G	T	G	A	G	C	A	A	A	G	A	A	G	C	A	A	G	A	A	G	T	C	T	C	T	G	A	C	G	G	C	A	T	G	S	A	G	T	C	80				
Cavia	G	T	A	C	C	C	A	G	A	G	A	A	A	G	A	G	A	A	T	C	A	A	G	A	A	T	G	G	A	A	G	A	G	G	T	G	T	G	A	G	C	A	A	A	G	C	A	A	G	A	A	G	T	C	T	C	T	G	A	C	G	G	C	A	T	G	S	A	G	T	C	80							
Homo	G	T	A	C	A	A	T	C	A	A	G	A	A	T	C	G	A	A	T	G	G	A	A	G	A	A	T	G	G	A	A	G	A	G	G	T	G	T	G	A	G	C	A	A	A	G	C	A	A	G	A	A	G	T	C	T	C	T	G	A	C	G	G	C	A	T	G	S	A	G	T	C	80						

Mus	T	A	C	A	A	T	C	T	G	C	C	A	T	T	G	G	C	A	T	T	A	A	A	A	A	A	T	A	C	A	G	A	T	G	C	T	T	C	A	G	T	A	C	C	T	G	C	C	C	A	T	C	A	G	C	C	C	C	A	C	C	T	T	T	G	C	A	G	G	160
Rattus	T	A	T	A	A	T	T	G	C	C	A	T	T	T	G	G	C	A	T	T	A	A	A	A	A	A	T	A	C	A	G	A	T	G	C	T	T	C	A	G	T	A	C	C	T	G	C	C	C	A	T	C	A	G	C	C	C	A	A	C	T	T	T	G	C	A	G	G	160	
Cavia	T	A	C	A	A	T	T	G	C	C	A	T	T	T	G	G	C	A	T	T	A	A	A	A	A	T	A	C	A	G	A	T	G	C	T	T	C	A	G	T	A	C	C	T	G	C	C	C	A	T	C	A	G	C	C	C	A	A	C	T	T	T	G	C	A	G	G	160		
Homo	T	A	C	A	A	T	T	G	C	C	A	T	T	T	G	G	C	A	T	T	A	A	A	A	A	T	A	C	A	G	A	T	G	C	T	T	C	A	G	T	A	C	C	T	G	C	C	C	A	T	C	A	G	C	C	C	A	A	C	T	T	T	G	C	A	G	G	160		

ENSMUSG00000027340_intron_14



ENSMUSG00000030653 intron 27

Description: cGMP-dependent 3',5'-cyclic phosphodiesterase (Pde2a)
 Intron number: 27
 Mouse chromosome: 7
 Upstream exon length: 100
 Downstream exon length: 113
 Mouse intron length: 271
 Intron alignment length: 299
 Total murinae branch length: 0.15961
 K_score: 0.08321
 Scaling factor: 0.67428

ENSMUSG00000030653 exon 27 (ORF 0)

Mus	GACTATCAGCGCATGCTGGA	CCTGATGAGGGACATCATCTTGGCTACAGACCTGGGCACACCACCTCCGCATCTTCAA	GGG	80
Rattus	GACTATCAGCGCAATGCTGGA	CCTGATGAGGGACATCATCTTGGCCACGGACCTGGGCACACCACCTCCGCATCTTCAA	GGG	80
Cavia	GACTATCAGCGCATGCTGGA	CCTGATGAGGGACATCATCTTGGCCACAGACCTGGGCACACCACCTCCGCATCTTCAA	GGG	80
Homo	GACTATCAGCGCATGCTGGA	CCTGATGAGGGACATCATCTTGGCCACAGACCTGGGCACACCACCTCCGCATCTTCAA	GGG	80

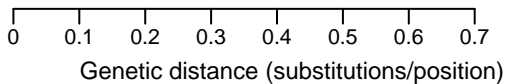
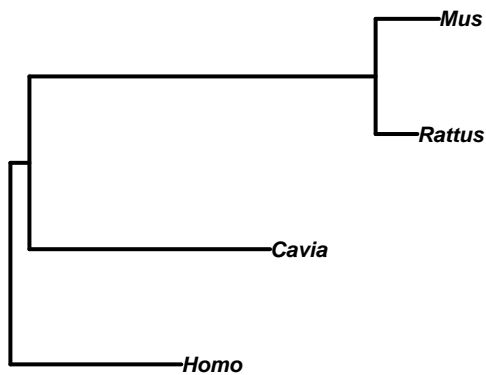
Mus	CCTGCAGAAAGATGGCTGAAG	100
Rattus	CCTGCAGAAAGATGGCTGAAG	100
Cavia	CCTGCAGAAAGATGGCTGAAG	100
Homo	CCTGCAGAAAGATGGCTGAAG	100

ENSMUSG00000030653 exon 28 (ORF 2)

Mus	TGGTTATGACCGAAACAACAGCAACACCACAGGCTTCTTCTG	TGCCTCCTCATGACCTCCTGTGACCTCTCTGACCA	80
Rattus	TGGTTATGACCGAAACAACAGCAACACCACAGGCTTCTTCTA	TGCCTCCTCATGACCTCCTGTGACCTCTCTGACCA	80
Cavia	TGGGCTATGACCGAAACAACAGCAACACCACAGACTTCTTCT	TGCCTCCTCATGACCTCCTGTGACCTCTCTGACCA	80
Homo	TGGGCTATGACCGAAACAACAGCAACACCACAGACTTCTTCT	TGCCTCCTCATGACCTCCTGTGACCTCTCTGACCA	80

Mus	ACAAAGGGCTGSAAGACCACAGAAAGATTGCA	113
Rattus	ACAAAGGGCTGSAAGACCACAGAAAGATTGCG	113
Cavia	ACAAAGGGCTGSAAGACCACAGAAAGATTGCT	113
Homo	ACAAAGGGCTGSAAGACTAGAGAAAGATTGCG	113

ENSMUSG00000030653_intron_27



Mus	G T G C G C A . C A C A T T G C T G G G A G A G A T G G T T G G T T A A C A T G G A G A C T G C C C A C C T G A C A C T C G A G T G G C T T G C C T G C C T	93
Rattus	G T G C C A C A G C T C A G T G C T G G G A G G G A T G G G T G G T T A G C A T G G A G A T C T G A A C A T C T G G A C A T G T G G A T G C T T C T G C C T G C C T	88
Cavia	G T G C G C A C C C T T A G C C C A G C . C T T C T G G T T G A G A G G A T G G T G T T C A G A T C T G C C G . G G T G C A T A C T C T G A C T T G A G	81
Homo	G T G A G T G C T T A G C C C A G T C . C T T G G G G T G G G A G G A C A A C C A G G G A A G S A T T T G G A G . G S A G C A T T C C A G G T G C A G A C C A T C C C C T G C A	88
Mus	. . . . . G C C C A T T C C T G C C T A T G . G T G C C C T G C A G G C A G A C C T A C T A C T G G T C A G C T T C C A T T G G G T G T G C T T T G T T C C C A T G G G A T G C T G T A G A C C C A C T T T G C	193
Rattus	. . . . . A G C C C T T T C C T G G C T A T G . G T G C C C T G C A G G C A G A C C T A C T A C T G G C A T C T T C C A T T G C A T G G T T C C C A T G G G A T G C T G T A G A C C T A C T T C A G	183
Cavia	. . . . . A T T C C T T C C T T C C A G T A T C A G C C C T C C A G G C A G A C A G C A T C A G C C C T G S A C C T A A C A G A G T G T C C A G T C C C T G G C A A C T	168
Homo	A C A T C A A C C C T T C T C T G C C T C A C G C C C C C C C A G G C A G A C C C A G C A C T G G C C C T T G C T C C A T C A A G G T G C C C A T T C C C T G A C C G C T C T G C	196
Mus	G A G A G C C T G T G G G T C C T G T T C T C A G A A G G A C A A G G C A C C T G G G C C C T C C T G C T T G A C T C C A T T G T C C C C C . A A C A G	271
Rattus	G A C G G C T G G G G C C C T T G T T C T C A G A A G G A C A A G G A A C C T G G G C C C T C C T G C T T G A C T C C G T T G T C C C C C . A A C A G	261
Cavia	. . . . . A G G C C T T G T C T C A G A G G G A . A A G G A G G C T G G G C C C T C T C C T T G A C C C A T C A T T C C G C A A C A G	234
Homo	G T T G G G C C C T G G G A G C C T T G T C T C A G A A G G G C . A A A G A G G C T G G G C C C G G T C C T T G A C C C A T C C T C C C C T C A A C A G	274

ENSMUSG00000034575 intron 1

Description: DNA polymerase sigma (Papd7)

Intron number: 1

Mouse chromosome: 13

Upstream exon length: 90

Downstream exon length: 47

Mouse intron length: 768

Intron alignment length: 1223

Total murinae branch length: 0.16595

K_score: 0.05011

Scaling factor: 0.67578

ENSMUSG00000034575 exon 1 (ORF 0)

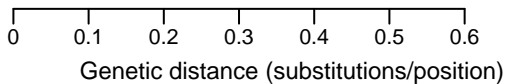
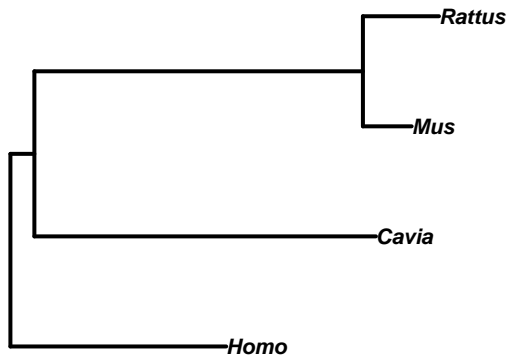
Mus	ATGTC	CCCTT	GTG	CCTG	AAG	AAG	GCAG	CCAT	GAGA	AGG	AGGT	GGT	GAA	ACG	GAT	CGAA	ACT	GT	GGT	GAA	AG	AC	CT	CT	GG	CC	80
Rattus	ATGTC	CCCTT	GTG	CCTG	AAG	AAG	GCAG	CCAT	GAGA	AGG	AGGT	GGT	GAA	ACG	GAT	CGAA	ACT	GT	GGT	GAA	AG	AC	CT	CT	GG	CC	80
Cavia	ATGTC	CCCTT	GTG	CCTG	AAG	AAG	GCAG	CCAT	GAGA	AGG	AGGT	GGT	GAA	ACG	GAT	CGAA	ACT	GT	GGT	GAA	AG	AC	CT	CT	GG	CC	80
Homo	ATGTC	CCCTT	GTG	CCTG	AAG	AAG	GCAG	CCAT	GAGA	AGG	AGGT	GGT	GAA	ACG	GAT	CGAA	ACT	GT	GGT	GAA	AG	AC	CT	CT	GG	CC	80

Mus	GAC	AGCT	GAT	90
Rattus	GTC	GGCT	GAC	90
Cavia	TAC	GGCT	GAC	90
Homo	GAC	GGCT	GAT	90

ENSMUSG00000034575 exon 2 (ORF 0)

Mus	GTGC	AGAT	ATTT	GGC	AGCTT	TAG	TAC	AGG	CTCT	ATCTT	CCA	CAAG	47
Rattus	GTGC	AGAT	ATTT	GGC	AGCTT	TAG	TAC	AGG	CTCT	ATCTT	CCA	CAAG	47
Cavia	GTGC	AGAT	ATTT	GGC	AGCTT	TAG	TAC	AGG	CTCT	ATCTT	CCA	CAAG	47
Homo	GTGC	AGAT	ATTT	GGC	AGCTT	TAG	TAC	AGG	CTCT	ATCTT	CCA	CAAG	47

ENSMUSG00000034575_intron_1



ENSMUSG00000051768 intron 14

Description: DNA repair protein XRCC1 (Xrcc1)

Intron number: 14

Mouse chromosome: 7

Upstream exon length: 137

Downstream exon length: 91

Mouse intron length: 1057

Intron alignment length: 2202

Total murinae branch length: 0.17517

K_score: 0.06743

Scaling factor: 0.67933

ENSMUSG00000051768 exon 14 (ORF 1)

Mus	GGTGGCCAAACAGAGGGAAACAAAGGCAGCCCCAGCCCCAGAGGAGAATGGCGAGGAGCCCGTATGCAGGCTCCACAGATG	80
Rattus	GGTGGCCAAAGCAGAGGGAAACAAAGGCAGCCCCAGCCCCAGAGGAGAATGGCGAGGAGCCCGTATGCAGGCTCCACAGATG	80
Cavia	GGTGGCCGAGCAGAGGGAAACAAAGGCAGCCCCAGCCCCAGAGGAGAATGGCTGAGGAGCCCGTATGCAGGCTCCACAGATG	77
Homo	GGTGGCAAGAGCAGAGGGAAACAAAGGCAGCCCCAGCCCCAGAGGAGAATGGTGAAGAGCCCGTATGCAGGCTCCACAGATG	80

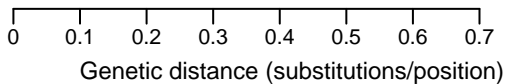
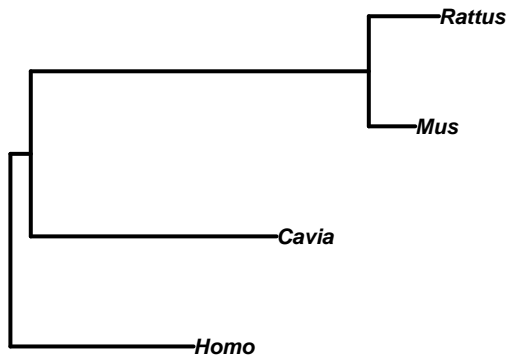
Mus	AGAACACAGACAGTGAACCCCTCAGAGGCT	- -	GACCTGCCAATCCCAGAGCTCCCAG	137
Rattus	AGAACACAGACAGCAGAGGCTCCCTCAGAGGCT	- -	GACCTGCCAATCCCAGAGCTCCCAG	137
Cavia	AGAACACAGACAAACAGGATCGCCAGAGTCTCCGACCAAGCCAATCCCTGAGCTCCCAG			137
Homo	AGAACACGGACAGTGAAGAACACAGGAGCTCCTGATCTGCCAGTCCCTGAGCTCCCAG			140

ENSMUSG00000051768 exon 15 (ORF 2)

Mus	ACTTCTTCAGGGCAAACACTTCTTCTGTATGGCGAGTTCCTGGGGATGAGAGGAGGAGGCTCATCCGCTACGTGAC	80
Rattus	ACTTCTTCCAGGGCAAAGCACTTCTTCTGTATGGCGAGTTCCTGGGGATGAGAGGAGGAGGCTCATCCGATATGTGACA	80
Cavia	ACTTCTTCCAGGGCAAAGCACTTCTTCTGTATGGCGAGTTCCTGGTGAAGGAGGAGGCTCATCCGTTATGTGACA	80
Homo	ATTTCTTCCAGGGCAAAGCACTTCTTCTTACGGCGAGTTCCTGGGACGAGCGGCGGAAACTCATCCGATACGTCACA	80

Mus	GCTTTC AATGG	91
Rattus	GCTTTC AATGG	91
Cavia	GCTTTC AATGG	91
Homo	GCTTTC AATGG	91

ENSMUSG00000051768_intron_14



Mus Rattus Cavia Homo
GT TAGACAATCCC T GACTCTGTGACATGTCCCTAGGTCCCTGGGCTCTGTCT 55
GTTGGGATCCCT GACTGTGACATGTCCCTCAACCCCTGGGCTCTGTCT 52
GATGGAAATCCCGCCATCCCTCOTGAAGTGGCATTTCCTGCTGAGTCTGAGTGTGACATGTCCCTGGGCTCTGTCT 66
GATGGAAATCCCGCCATCCCTCOTGAAGTGGCATTTCCTGCTGAGTCTGAGTGTGACATGTCCCTGGGCTCTGTCT 110

Mus Rattus Cavia Homo
..... GTATGCAACACTTGGTGGCTTTCCCTGTGACTCCACTTTAACCCCTCTGACAACCTTTGGTGTCTCTCT 111
..... GTATGCAACACTTGGTGGCTTTCCCTGTGACTCCACTTTAACCCCTCTGACAACCTTTGGTGTCTCTCTCT 122
..... GTATGCAACACTTGGTGGCTTTCCCTGTGACTCCACTTTAACCCCTCTGACAACCTTTGGTGTCTCTCTCT 160
..... GTATGCAACACTTGGTGGCTTTCCCTGTGACTCCACTTTAACCCCTCTGACAACCTTTGGTGTCTCTCTCT 219

Mus Rattus Cavia Homo
TCTGGCTCTGGCAAGACCTTGTGTGACCTTGTCTGTGACCTTCT CCAGTGTGAGCAACCTC ATTTCTGTGACTTTCAGGACTTACCC 202
TCTGGCTCTGGCAAGACCTTGTGTGACCTTGTCTGTGACCTTCT CCAGTGTGAGCAACCTC ATTTCTGTGACTTTCAGGACTTACCC 215
TCTGGCTCTGGCAAGACCTTGTGTGACCTTGTCTGTGACCTTCT CCAGTGTGAGCAACCTC ATTTCTGTGACTTTCAGGACTTACCC 236
TCTGGCTCTGGCAAGACCTTGTGTGACCTTGTCTGTGACCTTCT CCAGTGTGAGCAACCTC ATTTCTGTGACTTTCAGGACTTACCC 324

Mus Rattus Cavia Homo
ATCTCGCCCTAAACGCAGCTTCTGCTGCTGATCAGGCTCCCTGGACACCTGAGTGTGGGCACA GTGTGTTTGCAT C286
ATCTCGCCCTAAACGCAGCTTCTGCTGCTGATCAGGCTCCCTGGACACCTGAGTGTGGGCACA GTGTGTTTGCAT C298
ATCTCGCCCTAAACGCAGCTTCTGCTGCTGATCAGGCTCCCTGGACACCTGAGTGTGGGCACA GTGTGTTTGCAT C432

Mus Rattus Cavia Homo
ATTACTGATAACCTTAAACCAAGCTGTGTGACCTTGTCTGTGACCTTCT CCAGTGTGAGCAACCTC ATTTCTGTGACTTTCAGGACTTACCC 386
ATTACTGATAACCTTAAACCAAGCTGTGTGACCTTGTCTGTGACCTTCT CCAGTGTGAGCAACCTC ATTTCTGTGACTTTCAGGACTTACCC 372
ATTACTGATAACCTTAAACCAAGCTGTGTGACCTTGTCTGTGACCTTCT CCAGTGTGAGCAACCTC ATTTCTGTGACTTTCAGGACTTACCC 358
ATTACTGATAACCTTAAACCAAGCTGTGTGACCTTGTCTGTGACCTTCT CCAGTGTGAGCAACCTC ATTTCTGTGACTTTCAGGACTTACCC 516

Mus Rattus Cavia Homo
TAGCTCTTTTTTTTTTTTTTAAAGACTTATTCAATTTATATATATAAGTACACTGTCACTGTCTTCAGACACACCAGAGGGCATCAGATCTCTTTACAGATGTTGT 392
TAGCTCTTTTTTTTTTTTTTAAAGACTTATTCAATTTATATATATAAGTACACTGTCACTGTCTTCAGACACACCAGAGGGCATCAGATCTCTTTACAGATGTTGT 482
TAGCTCTTTTTTTTTTTTTTAAAGACTTATTCAATTTATATATATAAGTACACTGTCACTGTCTTCAGACACACCAGAGGGCATCAGATCTCTTTACAGATGTTGT 364
TAGCTCTTTTTTTTTTTTTTAAAGACTTATTCAATTTATATATATAAGTACACTGTCACTGTCTTCAGACACACCAGAGGGCATCAGATCTCTTTACAGATGTTGT 522

Mus Rattus Cavia Homo
AGCCACCATGTGGTGGTGGGAATTGAAGTCAATGACCTCTGAAAGAGCAGTGGGGTGTCTTAACCACTGAGCCATCTCTCCAGCCCGGCCAGGCTGAAACCTGTAGCTTT 407
AGCCACCATGTGGTGGTGGGAATTGAAGTCAATGACCTCTGAAAGAGCAGTGGGGTGTCTTAACCACTGAGCCATCTCTCCAGCCCGGCCAGGCTGAAACCTGTAGCTTT 592
AGCCACCATGTGGTGGTGGGAATTGAAGTCAATGACCTCTGAAAGAGCAGTGGGGTGTCTTAACCACTGAGCCATCTCTCCAGCCCGGCCAGGCTGAAACCTGTAGCTTT 364
AGCCACCATGTGGTGGTGGGAATTGAAGTCAATGACCTCTGAAAGAGCAGTGGGGTGTCTTAACCACTGAGCCATCTCTCCAGCCCGGCCAGGCTGAAACCTGTAGCTTT 522

Mus Rattus Cavia Homo
CAATCTGCCTCAGCCCTCCAGGTTCTTAGATACACCTGTGCTGCTGAGTGTGGTCTTCCCTATAAACCAGTACTTGGGATGTCAAGGGCAGAAAGATCACAAGTTCAAAGCCAGCCAGCTAC 598
CAATCTGCCTCAGCCCTCCAGGTTCTTAGATACACCTGTGCTGCTGAGTGTGGTCTTCCCTATAAACCAGTACTTGGGATGTCAAGGGCAGAAAGATCACAAGTTCAAAGCCAGCCAGCTAC 812
CAATCTGCCTCAGCCCTCCAGGTTCTTAGATACACCTGTGCTGCTGAGTGTGGTCTTCCCTATAAACCAGTACTTGGGATGTCAAGGGCAGAAAGATCACAAGTTCAAAGCCAGCCAGCTAC 393
CAATCTGCCTCAGCCCTCCAGGTTCTTAGATACACCTGTGCTGCTGAGTGTGGTCTTCCCTATAAACCAGTACTTGGGATGTCAAGGGCAGAAAGATCACAAGTTCAAAGCCAGCCAGCTAC 565

Mus Rattus Cavia Homo
TAGTAAACCTTTTTTAAATAAAGAAATGGAGAGTGGAGAGTGCAGGGCAGAAAAGACAGTCAACACCAAGTGGGATGTCAAGGGCAGAAAGATCACAAGTTCAAAGCCAGCCAGCTAC 703
TAGTAAACCTTTTTTAAATAAAGAAATGGAGAGTGGAGAGTGCAGGGCAGAAAAGACAGTCAACACCAAGTGGGATGTCAAGGGCAGAAAGATCACAAGTTCAAAGCCAGCCAGCTAC 919
TAGTAAACCTTTTTTAAATAAAGAAATGGAGAGTGGAGAGTGCAGGGCAGAAAAGACAGTCAACACCAAGTGGGATGTCAAGGGCAGAAAGATCACAAGTTCAAAGCCAGCCAGCTAC 452
TAGTAAACCTTTTTTAAATAAAGAAATGGAGAGTGGAGAGTGCAGGGCAGAAAAGACAGTCAACACCAAGTGGGATGTCAAGGGCAGAAAGATCACAAGTTCAAAGCCAGCCAGCTAC 647

Mus Rattus Cavia Homo
..... GCTTGTGGGCAATGTGAGGAGAGTATGTGAAACCCCAAT GAGGGGAGTGAAT CCTTGGACATGTGTGGAAATAAGAAAGAA AAC789
..... GCTTGTGGGCAATGTGAGGAGAGTATGTGAAACCCCAAT GAGGGGAGTGAAT CCTTGGACATGTGTGGAAATAAGAAAGAA AAC1009
..... GCTTGTGGGCAATGTGAGGAGAGTATGTGAAACCCCAAT GAGGGGAGTGAAT CCTTGGACATGTGTGGAAATAAGAAAGAA AAC530
..... GCTTGTGGGCAATGTGAGGAGAGTATGTGAAACCCCAAT GAGGGGAGTGAAT CCTTGGACATGTGTGGAAATAAGAAAGAA AAC757

Mus Rattus Cavia Homo
TAGCTCAGAGGCAGTGTGGGA GCACCTGAGGGGAAGTGTGGGCA 836
TAGCTCAGAGGCAGTGTGGGA GCACCTGAGGGGAAGTGTGGGCA 1056
TAGCTCAGAGGCAGTGTGGGA GCACCTGAGGGGAAGTGTGGGCA 596
TAGCTCAGAGGCAGTGTGGGA GCACCTGAGGGGAAGTGTGGGCA 867

Mus Rattus Cavia Homo
..... CCACAGCCCTGCCTGGGCA 846
..... CCACAGCCCTGCCTGGGCA 1076
..... CCACAGCCCTGCCTGGGCA 611
..... CCACAGCCCTGCCTGGGCA 977

Mus Rattus Cavia Homo
GCAGGCCAGGCCTGGTGGCTCAOCCCGTACTTTGAGAGGCCGAGGTGGGAGACTGCTTGAGTCCAAGAGTGAAGCCAGCCCTGGGCAACATAGTGAAGCCOCCOCCGA 977

Mus Rattus Cavia Homo
..... 846
..... 1076
..... 611
..... 1087

Mus Rattus Cavia Homo
..... 846
..... 1076
..... 611
..... 1197

Mus Rattus Cavia Homo
..... 846
..... 1076
..... 611
..... 1307

Mus Rattus Cvia Homo
..... 903
..... 1130
..... 703
..... 1413

Mus Rattus Cavia Homo
..... 938
..... 1240
..... 735
..... 1456

Mus Rattus Cavia Homo
TTGGCTTCTAGGTAAAGGCTCTACCACTGAGCTAAATCCCCAGCCCTAGATGAGAAATTTAGTCAAGGCCCC CCTCCTGAGCACTTATAC 972
TTGGCTTCTAGGTAAAGGCTCTACCACTGAGCTAAATCCCCAGCCCTAGATGAGAAATTTAGTCAAGGCCCC CCTCCTGAGCACTTATAC 1337
TTGGCTTCTAGGTAAAGGCTCTACCACTGAGCTAAATCCCCAGCCCTAGATGAGAAATTTAGTCAAGGCCCC CCTCCTGAGCACTTATAC 780
TTGGCTTCTAGGTAAAGGCTCTACCACTGAGCTAAATCCCCAGCCCTAGATGAGAAATTTAGTCAAGGCCCC CCTCCTGAGCACTTATAC 1499

Mus Rattus Cavia Homo
TTGGTGGCTCTGGCTCCTGGCTCCTCTGTCTTCTGAGTACTCAGGAGCTGGTCAAGT CCTCAL CTTTTCCTCTCTCTCCG 1055
TTGGTGGCTCTGGCTCCTGGCTCCTCTGTCTTCTGAGTACTCAGGAGCTGGTCAAGT CCTCAL CTTTTCCTCTCTCTCCG 1426
TTGGTGGCTCTGGCTCCTGGCTCCTCTGTCTTCTGAGTACTCAGGAGCTGGTCAAGT CCTCAL CTTTTCCTCTCTCTCCG 867
TTGGTGGCTCTGGCTCCTGGCTCCTCTGTCTTCTGAGTACTCAGGAGCTGGTCAAGT CCTCAL CTTTTCCTCTCTCTCCG 1581

Mus Rattus Cavia Homo
AC 1057
AC 1428
AC 869
AC 1583

ENSMUSG00000036244 intron 7

Description: TBC1 domain family, member 21 (Tbc1d21)

Intron number: 7

Mouse chromosome: 9

Upstream exon length: 97

Downstream exon length: 101

Mouse intron length: 252

Intron alignment length: 347

Total murinae branch length: 0.17005

K_score: 0.05567

Scaling factor: 0.67976

ENSMUSG00000036244 exon 7 (ORF 0)

Mus	GAGCACAGCTGTGTGCATCAACATCGGTTGTAGGCCAAGAATCTGGACATGGCTCAACAAGCCTGATCACTCTACTGGAAACCCCTGA	80
Rattus	GAGCACAGCTGTGTGCATCAACATCGGTTGTAGGCCAAGAATCTGGACATGGCTCAACAAGCCTGATCACTCTACTGGAAACCCCTGA	80
Cavia	GAGCACAGCTGTGTGCATCAACATCGGTTGTAGGCCAAGAATCTGGACATGGCTCAACAAGCCTGATCACTCTACTGGAAACCCCTGA	80
Homo	GAGCACAGCTGTGTGCATCAACATCGGTTGTAGGCCAAGAATCTGGACATGGCTCAACAAGCCTGATCACTCTACTGGAAACCCCTGA	80

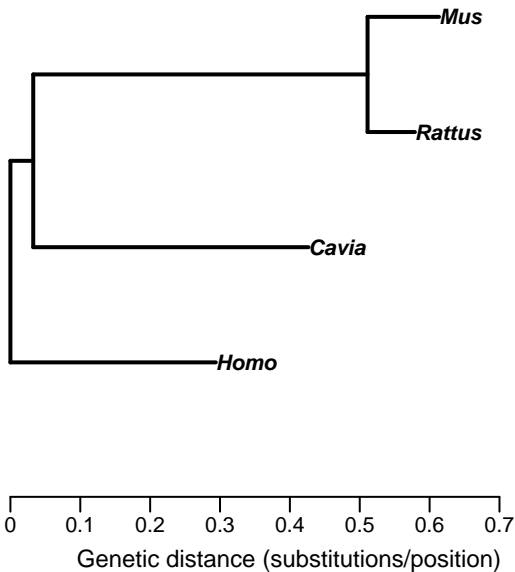
Mus	ATTTGCTGAAACACCTCA	97
Rattus	GTTTGCTGACACCTCA	97
Cavia	ATTTGCTGAGCACCTGA	97
Homo	GTTTGCTGAGCACCTAA	97

ENSMUSG00000036244 exon 8 (ORF 2)

Mus	AAGGGAAGGGCTCAGGGGCTGTGCACTCCCTCTTCCCGTGGTTCTGGCCCTTTGCTTCCAGCGTGCCTTCAAACACCTTCCGAT	80
Rattus	AAGGGAAGGGCTCAGGGGCTGTGCACTCCCTCTTCCCGTGGTTCTGGCCCTTTGCTTCCAGCGTGCCTTCAAACACCTTCCGAT	80
Cavia	AAGGGAAGGGCTCAGGGGCTGTGCACTCCCTCTTCCCGTGGTTCTGGCCCTTTGCTTCCAGCGTGCCTTCAAACACCTTCCGAT	80
Homo	AAGGGAAGGGCTCAGGGGCTGTGCACTCCCTCTTCCCGTGGTTCTGGCCCTTTGCTTCCAGCGTGCCTTCAAACACCTTCCGAT	80

Mus	GATGTCTGGAGGCTCTGGGAG	101
Rattus	GATGTCTGGAGGCTCTGGGAG	101
Cavia	GATGTCTGGAGGCTCTGGGAG	101
Homo	GATGTCTGGAGGCTCTGGGAG	101

ENSMUSG00000036244_intron_7



ENSMUSG00000028173 intron 7

Description: Integral membrane protein GPR177 Precursor (Wls)

Intron number: 7

Mouse chromosome: 3

Upstream exon length: 98

Downstream exon length: 64

Mouse intron length: 364

Intron alignment length: 475

Total murinae branch length: 0.12969

K_score: 0.087

Scaling factor: 0.68014

ENSMUSG00000028173 exon 7 (ORF 0)

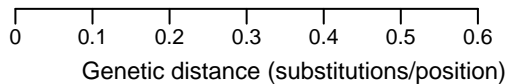
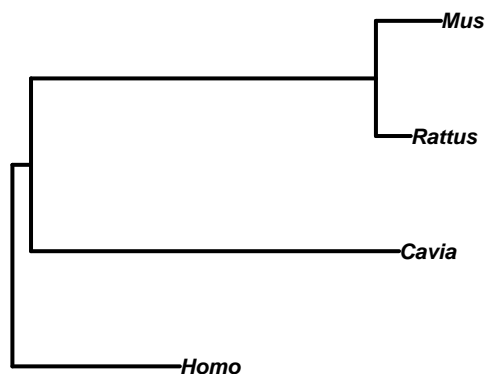
Mus	GATCAACATGAAACCGGAATCACATTGCAGGGTATCTGGAAGCAAGTTGGACCAATTGCTGTTGGCTCCTTCTGGCCTCTTCAT	80
Rattus	GATCAACATGAGCGGAATCACATTGCAGGGTATTGGAAGCAAGTTGGACCAATTGCTGTTGGCTCCTTCTGGCCTCTTCAT	80
Cavia	GATCAGCATCAGCGGAACCCACATCGCGGGTATCTGGAAGCAAGTTGGACCAATTGCTGTTGGCTCCTTCTGGCCTCTTCAT	80
Homo	GATCAGCATCAGCGGAACCCACATCGCGGGTATCTGGAAGCAAGTTGGACCAATTGCTGTTGGCTCCTTCTGGCCTCTTCAT	80

Mus	ATTTGACATGTGTGAAAG	98
Rattus	ATTTGACATGTGTGAGAG	98
Cavia	ATTTGACATGTGTGAGAG	98
Homo	ATTTGACATGTGTGAGAG	98

ENSMUSG00000028173 exon 8 (ORF 1)

Mus	AGGAGTACAACACTCACAAATCCTTTCTACAGTATCTGGACTACAGATGTTGGAACAGAACTGGCT	64
Rattus	AGGAGTACAACACTCACAAATCCTTTCTACAGTATCTGGACTACAGATGTTGGAACAGAACTGGCT	64
Cavia	AGGCGTGCAGCTCACCAACCTTTCTACAGTATCTGGACTACAGATGTTGGAACAGAACTGGCT	64
Homo	AGGCGTACAACACTCACAAATCCTTTCTACAGTATCTGGACTACAGATGTTGGAACAGAACTGGCT	64

ENSMUSG00000028173_intron_7



Mus
Rattus
Cavia
Homo

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GTGAGCAGATATCAGCATCACTCCAGGATGAAATGTACCTTTCTATGCTACTTCTAICTTTCTAGGAAGAATTTTGAATGAAGCATGGTGGTGGGATTCATGGGA109
GTGAGCAGGTACCGGAGTCAATCCAGGATGAAATGTGCTTTCTATGCTACTTCTAICTTTCTAGGAAGAATTTTGAATGAAGCATGGTGGTGGGATTCATGGGA109
GTGAGCAGGTGCGCGAGCTGCTCCAGGATGAAATGTGCTTTCTATGCTACTTCTAICTTTCTAGGAAGAATTTTGAATGAAGCATGGTGGTGGGATTCATGGGA94
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Mus
Rattus
Cavia
Homo

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TGGAAATATTGGAGAGTCAATATCCAGATGACATATGGGACTAAGTCAAAGGTTTAGTCCCTTTAT-----176
TGGAAATATTGGAGAGTCAATATCCAGATGACATATGGGACTAAGTCAAAGGTTTAGTCCCTTTAT-----175
TGAAGTCACTGGGTGGTGGTCACTTCCAGGACTGGGCTGAGTCAAAGCTTTGGGCTTTATTTGTTTTTTTCCAGCACTGGGATCAACCCAGGTCCTGTTGC203
TGGAAAGCACTGGACGTGGTCACTTCCAGGACTGGGCTGAGTCAAAGCTTTGGGCTTTATTTGTTTTTTTCCAGCACTGGGATCAACCCAGGTCCTGTTGC178

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Mus
Rattus
Cavia
Homo

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-----ATATGCAAAGTGGTTG-----CCATATTTCAAAGCTTCCATCTCTTA-----TACTCTCTGAAATTTATTTTCTAAATAT248
-----ACATGCAAAGTGGTTG-----CCATATTTCAAAGCTTCCATCTCTTA-----TACTCTCTGAAATTTATTTTCTAAATAT252
AGCCCCAGGTCCATGCATAGCCCCCTTAGCTTGCAAAAGCTTTGGGCGATCAAGCTTCTCCAGCTTGTTCATCTGGATTGGTTCTCTGTGATGCTG-----CTGGTCAG310
-----AGTTGAAAAATATTTGGGCGATGTATTTCTACAGGCTTCACTCTTTA-----GGAATTTCTGTAAATGTTT-----TAGGCTA254

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Mus
Rattus
Cavia
Homo

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AGTACACTCACACTCCCTCCATACCTCACTTCAATGTTGCAACACTAAGAGAGGCT-----CTGTTCTGCTTTGCTTA-----TCT335
AGTAAAGTCTACCCCTACCAATATCCCTGCTCACTCCACTGTTGCAATCTTAAGAGAGGCT-----CTGTTCCGCTTTGCTTA-----TCT337
GGAGAGCTTCTCTCCGCA-----GTTAGCATGAAAGGAAAGAGTCCAG-----CTGCTTCCCTTASAGGAATTACAGCCCTGCT393
AATACAGCCCTCACCCCTGCA-----GTTAGCATGAAAGGAAAGATCTGAAAAGGAAAGTTCCTTCCCTTGTATTAATTTGTGTTTCC341

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Mus
Rattus
Cavia
Homo

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CTTCATCTTG-----TTTGTCTTTTATATAG364
CTTCATCTTG-----TTTGTCTTTTATATAG366
TTGCTCTTGGTTCTTTCCCTTTTTTCTGTAG428
TTGCTATCTA-----TTTTCTTTGTAG363

```

ENSMUSG00000024187 intron 4

Description: Protein ITFG3 (Itfg3)
 Intron number: 4
 Mouse chromosome: 17
 Upstream exon length: 137
 Downstream exon length: 133
 Mouse intron length: 602
 Intron alignment length: 667
 Total murinae branch length: 0.25732
 K_score: 0.05686
 Scaling factor: 0.6818

ENSMUSG00000024187 exon 4 (ORF 2)

Mus	GAGAAACCCCTGTGGAGCCATCCAGCAGCTTTAGTGGGAAAGTTTCCATCCTGAGGCCCTCTGCTCCAGGTGCCTGACAT	80
Rattus	GAGAAACCCCTGTGGAGCCATCCAGCAGCTTTAGTGGGAAAGTTTCCATCCTGAGGCCCTCTGCTCCAGGTGCCTGACAT	80
Cavia	GGAAACCCCTGTGGAAACCAAGCAGCAGAGCTTCAAGGGGAATGCGTCCATCCTGAGGCCCTCTGCTCCAGGTGCCTGATGT	80
Homo	GGAAACCCCTGTGGAAACCAAGCAGCAGAGCTTCAAGGGGAATGCGTCCATCCTGAGGCCCTCTGCTCCAGGTGCCTGATGT	80

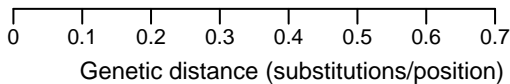
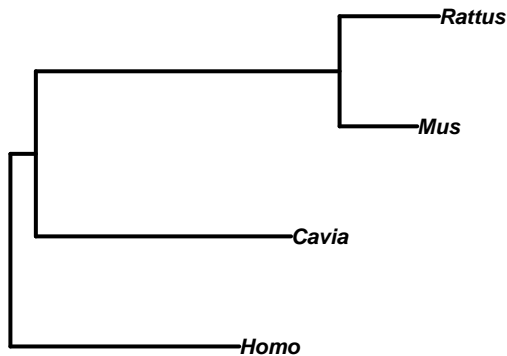
Mus	GATGGTGATGGTACCGGTACTCCAGACCTCCTGATCCTCGCCAGGACGGGACAGGAG	137
Rattus	GACGGTGACGGTACCGGTACTCCAGACCTCCTGATCCTCGCCAGGACGGGACAGGAG	131
Cavia	GACAGTGATGGTACCGGTACTCCAGACCTCCTGATCCTCACCCAGAGGGGAGAGGAG	131
Homo	GACGGTGATGGTACCGGTACTCCAGACCTCCTGATCCTCACCCAGGAGCGGGAGGAG	131

ENSMUSG00000024187 exon 5 (ORF 0)

Mus	GTCAGTGGAGCTCTCTATTACGGTAGCACTGGGTACCAGATTGGCCACAGAGGCCCTTGGTGTGGATGGAGATGGTGT	80
Rattus	GTCAGTGGAGCTCTCTATTACGGTAGCACTGGGTACCAGATTGGCCACAGAGGCCCTTGGTGTGGATGGAGATGGTGT	80
Cavia	GTCAAGGGGTCACTCTATTACGGTAGCACTGGGTACCAGATTGGCCACAGAGGCCCTTGGTGTGGATGGAGATGGTGT	80
Homo	GTTAGTGGGCACTCTCTATTACGGTAGCACTGGGTACCAGATTGGCCACAGAGGCCCTTGGTGTGGATGGAGATGGTGT	80

Mus	CGCCCTCCTTCACTGACCCAGAACTGGTGCTCAGTATATTCTCTGCCCCTGTG	133
Rattus	CGCCCTCCTTCACTGACCCAGAACTGGTGCTCAGTATATTCTCTGCCCCTGTG	133
Cavia	CGCCCTTCTTCACTGACCCAGAAGACGGGTGCACACTACATTCTCTGCCCCTGTG	133
Homo	CTTCCTCCTTCACTGACCCAGGACAGAGGTGCCACTACATTCTCTTCCCTGCG	133

ENSMUSG00000024187_intron_4



ENSMUSG00000026113 intron 19

Description: Type I inositol-3,4-bisphosphate 4-phosphatase (Inpp4a)
 Intron number: 19
 Mouse chromosome: 1
 Upstream exon length: 127
 Downstream exon length: 141
 Mouse intron length: 272
 Intron alignment length: 302
 Total murinae branch length: 0.29315
 K_score: 0.04116
 Scaling factor: 0.68333

ENSMUSG00000026113 exon 19 (ORF 2)

Mus	GAGAGGAGTTGGCCATGTTGGAGGACATGAGCCCTTGGAAATCATGGACCTGAGGAATGTGACCTTTAAAGTCACTCAGGGCC	80
Rattus	GAGAGGAGTTGGCCATGTTGGAGGACATGAGCCCTTGGGATCATGGACCTGAGGAATGTGACCTTTAAAGTCACTCAGGGCC	80
Cavia	GTTGAGGAGCTTGGCCATGCTGGAGGACATGAGCCCTTGGGATCATGGACTTGAAGGAATGTGACCTTTAAAGTCACTCAGGGCC	80
Homo	GGGAGGAGCTTGGCAATGCTGGAGGACATGAGCCCTTGGGATCATGGACTTGAAGGAATGTGACCTTTAAAGTCACTCAGGGCC	80

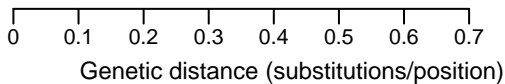
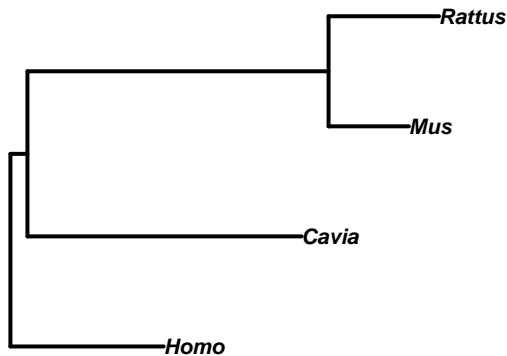
Mus	ACTTCGAATGCATCAAATGACATGCTGCCGGTTCATCACAGGAAAACCG	127
Rattus	ACTTCGAATGCTTCTAGTGACATGCTGCCAGTTCATCACAGGAAAACCG	127
Cavia	ACTTCCAGTGCATCAAGTACATGCTGCCCGTTCATCACAGGAAAATCG	127
Homo	ACTTCCAAGCGGCTCCGAGACATGCTGCCCGTTCATCACAGGAAAATCG	127

ENSMUSG00000026113 exon 20 (ORF 1)

Mus	GGATGGCTTTAAACGTGCGGATCCCTCTGCCAGGCCACTGTTTGACTCCCTCCCAAGAGATCCAGAGTGGCATGCTGC	80
Rattus	GGATGGCTTTAAACGTGCGGATCCCTCTGCCAGGCCACTGTTTGACTCTCTCCCAAGAGATCCAGAGCGGCATGCTGC	80
Cavia	TGATGGCTTTAAATGTGCGGATCCCTCTGCCAGGCCGCTGTTTGACTCCCTGCCCGAGAGATCCAGAGCGGCATGCTGC	80
Homo	CGATGGCTTTAAACGTGCGGATCCCTCTGCCAGGCCGCTGTTTGACTCCCTGCCCGAGAGATCCAGAGTGGCATGCTGC	80

Mus	TGCCGGTGCAGCCCTGTCCTCTTCAACGTGGGCATCAATGAGCAACAGACACTGGCTGAGAG	141
Rattus	TGCCGGTGCAGCCCTGTCCTCTTCAACGTGGGCATCAATGAGCAACAGACACTGGCCGAGAG	141
Cavia	TGCCCGTGCAGCCGAGTCTCTTCAACGTGGGCATCAATGAGCAACAGACACTGGCCGAGAG	141
Homo	TGCCAGTGCAGCCCGTCTCTTCAACGTGGGCATCAATGAGCAACAGACACTGGCCGAGAG	141

ENSMUSG00000026113_intron_19



Mus
Rattus
Cavia
Homo

GTAAGAT...CATCTAACACTCTCCAGCAGCCAGGCATCACT...GTGCTGCTCTGTGGGAC...ACACACCCTCTGTCTCTTGTCTTTACTC...C 88
GTAAGAT...TGTCACTAACTTCGTCAACAGCGGGCTTCCCT...GTGTCATCCACACTGGGGCCTCACTGTGCTGTCTGTCTTTTGTCTTTACTC 104
GTAAGACAGTTTCTGTGAAATCCATGCAAGCAGAGCACTTCTTCATTAATGTCCCTCCTATGGTTG...CATGCTCTGTCTTCAATTTTACTCCATTTCTTTCTG 103
GTAAGACTGTGGGTTTAAATTTCTGTGAGCCAGAGAGGGCTTTTCATTTTGTTTATCTCAGGAAAG...GTACTCTTGTGAATTTTTTATCCTATTTGATTTT 101

Mus
Rattus
Cavia
Homo

TTTAGACATTTGCATATAGCCTTCCAGACCCATACCAATGCGATAATTT...GTGTTTAAAGGCTCTAG...TGGGCATTGAAGCCACACC...TGGCAGGGCATCACCCAGG 192
TTTGGAAAGATGGCTACAGCCTTCCGAGACCCATCTCAATTTGTAAATGAAAGGTCTTAAATGTCTAG...TGGGCATTGAAGCCGCTTGGCAGGGCATCACCCAGG 210
TTAAAAACCAATGGCTACAAGCC...CTTAACTGTGCTCTAA...CAGGTTAAAGGCTGCT...TGGGTTTGAAGCCATAGAGCCAGGGCTGCTGCA 195
TTAAATGCTCTGATTACAGGC...CCTAGCTTACTGAC...TCCCTTAAAGGCTCTGTTGCGATTGGCCATCACTAAGCCAGAGGGCCAGCCTTGG 197

Mus
Rattus
Cavia
Homo

GCTCTGAAGTATGCTTTGGTCTGCGCTCTAGTCTCAGGGTCTGACCTCACCCCA...CTTTGCATTTTCTCTCTTCACTAG 272
GCTCTAAGTGTCTTTGGTGTCTCCCTCCACAGCAGGCTCTGACCTCACCCCTCTTTTGGCTTTTCTCTCTCCACAG 291
CGCCAGCCCTGGCTCTGTA...GGGCTCAGGCTGGCTTCTCTCTTCAACCTCTCCAG 255
GCACTGACCCCTGCTCCGTG...GGCCCTGCGCTCAGACTGGTCTTCCCTCTCTCCAGCTTCTCCAG 262

ENSMUSG00000021610 intron 4

Description: Cleft lip and palate transmembrane protein 1-like protein (Clptm11)
 Intron number: 4
 Mouse chromosome: 13
 Upstream exon length: 149
 Downstream exon length: 79
 Mouse intron length: 1035
 Intron alignment length: 1346
 Total murinae branch length: 0.14894
 K_score: 0.07618
 Scaling factor: 0.68789

ENSMUSG00000021610 exon 4 (ORF 0)

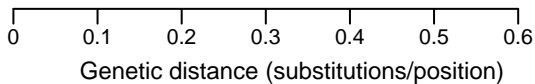
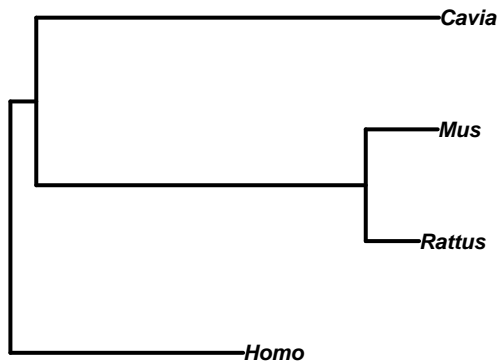
Mus	C A A C A G A T A G A A G C C G A G A A G A A G C C A T C A A A C G C C C T G G A T G A A C C C G T C T C T C A C T G G C G A C C A A G G C T G A C C C T G A A	80
Rattus	C A G C A G A T A G A A G C A G A G A G A A G C C A T C G A A T G C C C T A C A T G A G C C C G T C T C T C A C T G G C G A C C A G G C T G A C C C T G A A	80
Cavia	- - - C A G A T C G A G G C T G A G A A G A A G C C A T C G A G T G C C C T G G A T G A G C C A T C T C T C A C T G G A G A C C C A G G C T A A C G C T G A A	77
Homo	- - - C A G A T C G A G G C G A G A A G A A G C C G A C G A G T G C C C T G G A T G A G C C A G T G T C C C A C T G G C G A C C G C G G C T G C C G C T G A A	77

Mus	T G T G A T G G T G G A T G A C T T T G T C T T T G A T G G T T C C T C C C T G C C T G C A G A T G T G C A T C G G T A C A T G A A G A T	149
Rattus	T G T G A T G G T G G A T G A C T T G T C T T T G A T G G T T C C T C C C T G C C T G C A G A T G T G C A T C G A T A C A T G A A G A T	149
Cavia	C G T G A T G G T G G A C G A C T T T G T C T T C G A T G G A T C C T C C C T G C C T G C C G A T G T G C A C C G G T A C A T G A A A A T	146
Homo	C G T G A T G G C G G A C A A C T T T G T C T T T G A C G G G T C C T C C C T G C C T G C C G A T G T G C A T C G G T A C A T G A A G A T	146

ENSMUSG00000021610 exon 5 (ORF 1)

Mus	G A T T C A G C T T G G G A A G A C A G T G C A C T A C C T C C C C A T C C T G T T C A T T G A C C A G C T G A G C A A C C G G G T G A A A G A C C T G A T G	79
Rattus	G A T T C A G C T T G G G A A G A C A G T T C A C T A C C T C C C C A T C C T G T T C A T T G A C C A G C T G A G C A A C C G G G T G A A A G A C C T G A T G	79
Cavia	G A T T C A G C T G G G G A A G A C G G T G C A C T A C C T T C C C A T C C T G T T C A T T G A C C A G C T G A G C A A C C C G T G A A G G A C T T G A T G	79
Homo	G A T T C A G C T G G G G A A A A C C G T G C A T T A C C T G C C C A T C C T G T T C A T C G A C C A G C T C A G C A A C C C G T G A A G G A C C T G A T G	79

ENSMUSG00000021610_intron_4



Mus Rattus Cavia Homo
GTAAGT...CTCAAA...GGAACCCAGGGAGGAACTACTCTTAGAACTGAAAGCAGAGGAGGCATCAGTTTGTAGCCCAATAGAGTATCCATACCTGAGTTC 103
GTAAGT...CCAGA...TGAACCCAGGGAGGAACTAGGCTTAGAACTGAAAGCAGAGGAGGCATCAGTTTGTAGCCCAATAGAGTATCCATACCTGAGTTC 103
GTAAGTGGCTCCAGAGGCTGGAGCCGCTGGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCT 99
GTAAGTGGCTCCAGAGGCTGGAGCCGCTGGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCT 88

Mus Rattus Cavia Homo
TGGACTTGGCTGTGTTGTGAGCTGGCCCTGCCACAGAACCCATCCAGCTCTTTGG...TAACCACTTGGAAAGTTATGATAACCAAGTTGACTGACAAAGATTGAGAGA 207
TGGACTTGGCTGTGTTGTGAGCTGGCCCTGCCACAGAACCCATCCAGCTCTTTGG...TAACCACTTGGAAAGTTATGATAACCAAGTTGACTGACAAAGATTGAGAGA 205
TGGACTTGGCTGTGTTGTGAGCTGGCCCTGCCACAGAACCCATCCAGCTCTTTGG...TAACCACTTGGAAAGTTATGATAACCAAGTTGACTGACAAAGATTGAGAGA 184
TGGACTTGGCTGTGTTGTGAGCTGGCCCTGCCACAGAACCCATCCAGCTCTTTGG...TAACCACTTGGAAAGTTATGATAACCAAGTTGACTGACAAAGATTGAGAGA 184

Mus Rattus Cavia Homo
AAGAGTGA...AAATCCAGCTGGTACATCTGGCCCTTTAGCTAGGA...AAGTGTCCACCTGCACTGAAACAATAA...ACAAAGTTAGTGTGACTA 299
AAGAGTGA...AAATCCAGCTGGTACATCTGGCCCTTTAGCTAGGA...AAGTGTCCACCTGCACTGAAACAATAA...ACAAAGTTAGTGTGACTA 302
AAGAGTGA...AAATCCAGCTGGTACATCTGGCCCTTTAGCTAGGA...AAGTGTCCACCTGCACTGAAACAATAA...ACAAAGTTAGTGTGACTA 287
AAGAGTGA...AAATCCAGCTGGTACATCTGGCCCTTTAGCTAGGA...AAGTGTCCACCTGCACTGAAACAATAA...ACAAAGTTAGTGTGACTA 283

Mus Rattus Cavia Homo
CTGTACACTCTTTGGCTTTTGTGCTGTGCTCATGCT 399
CTGTACACTCTTTGGCTTTTGTGCTGTGCTCATGCT 1400
CTGTACACTCTTTGGCTTTTGTGCTGTGCTCATGCT 374
CTGTACACTCTTTGGCTTTTGTGCTGTGCTCATGCT 351

Mus Rattus Cavia Homo
GTGGCTAAATA...TAAATCAGTACTAGGGATTGAACTCAGGACCCCTGCTTACAAGGCAGGTGCTTATGCTGCTGAGCTAAATCCCCAGGCCGGAGAACTGTGCTTTAGATCACCACCTC 411
GTGGCTAAATA...TAAATCAGTACTAGGGATTGAACTCAGGACCCCTGCTTACAAGGCAGGTGCTTATGCTGCTGAGCTAAATCCCCAGGCCGGAGAACTGTGCTTTAGATCACCACCTC 412
GTGGCTAAATA...TAAATCAGTACTAGGGATTGAACTCAGGACCCCTGCTTACAAGGCAGGTGCTTATGCTGCTGAGCTAAATCCCCAGGCCGGAGAACTGTGCTTTAGATCACCACCTC 484
GTGGCTAAATA...TAAATCAGTACTAGGGATTGAACTCAGGACCCCTGCTTACAAGGCAGGTGCTTATGCTGCTGAGCTAAATCCCCAGGCCGGAGAACTGTGCTTTAGATCACCACCTC 357

Mus Rattus Cavia Homo
...TGGCTGACATCTTAGTATGTACTGT...GATGGTGTTCAGGA 457
...TGGCTGACATCTTAGTATGTACTGT...GATGGTGTTCAGGA 458
GACTGAGTCCCATCTGTGTAAATCTGACTGTGATGTGGGGGACAGACCGGTGTTGCTCCTTCCACACTCAGGGAGCCCATGTTGAAACCAGGGATTCAGGTG 398
...TGGCTGACATCTTAGTATGTACTGT...GATGGTGTTCAGGA 398

Mus Rattus Cavia Homo
TCCACGACAGATCATCAGTGTGGCTCATCTCCATGCT 566
TCCACGACAGATCATCAGTGTGGCTCATCTCCATGCT 568
TCCACGACAGATCATCAGTGTGGCTCATCTCCATGCT 687
TCCACGACAGATCATCAGTGTGGCTCATCTCCATGCT 471

Mus Rattus Cavia Homo
AGATTTCAAT...AGGACATTGATCTGTAAACAAGAACT...TGGCTCACTGAGCTA 622
AGATTTCAAT...AGGACATTGATCTGTAAACAAGAACT...TGGCTCACTGAGCTA 672
AGATTTCAAT...AGGACATTGATCTGTAAACAAGAACT...TGGCTCACTGAGCTA 728
AGATTTCAAT...AGGACATTGATCTGTAAACAAGAACT...TGGCTCACTGAGCTA 519

Mus Rattus Cavia Homo
AATCCCAACCCCTCATTTTAAATATAATAAAATCTGATTTGTGACA...TGGCTCACTGAGCTA 694
AATCCCAACCCCTCATTTTAAATATAATAAAATCTGATTTGTGACA...TGGCTCACTGAGCTA 790
AATCCCAACCCCTCATTTTAAATATAATAAAATCTGATTTGTGACA...TGGCTCACTGAGCTA 826
AATCCCAACCCCTCATTTTAAATATAATAAAATCTGATTTGTGACA...TGGCTCACTGAGCTA 568

Mus Rattus Cavia Homo
GTACAAAGGGAGGAGGCTGACCTTGTCTCCAGGC...TCCCTCAGAGAGCCTCTCAGAGTATGGGTAGCCCTCTCCAGGCTACCTGTGTGATAGCTAGTCCCT 803
GTACAAAGGGAGGAGGCTGACCTTGTCTCCAGGC...TCCCTCAGAGAGCCTCTCAGAGTATGGGTAGCCCTCTCCAGGCTACCTGTGTGATAGCTAGTCCCT 838
GTACAAAGGGAGGAGGCTGACCTTGTCTCCAGGC...TCCCTCAGAGAGCCTCTCAGAGTATGGGTAGCCCTCTCCAGGCTACCTGTGTGATAGCTAGTCCCT 892
GTACAAAGGGAGGAGGCTGACCTTGTCTCCAGGC...TCCCTCAGAGAGCCTCTCAGAGTATGGGTAGCCCTCTCCAGGCTACCTGTGTGATAGCTAGTCCCT 860

Mus Rattus Cavia Homo
ACCACTACTCTAGACAGAGGTGTGGGCTTCTACTTGGTGGCTGACTGATGCTGGGATGCTACATCTCTTGTCTCTGTTGGAAAGTTC...TAAAGTTC 907
ACCACTACTCTAGACAGAGGTGTGGGCTTCTACTTGGTGGCTGACTGATGCTGGGATGCTACATCTCTTGTCTCTGTTGGAAAGTTC...TAAAGTTC 944
ACCACTACTCTAGACAGAGGTGTGGGCTTCTACTTGGTGGCTGACTGATGCTGGGATGCTACATCTCTTGTCTCTGTTGGAAAGTTC...TAAAGTTC 945
ACCACTACTCTAGACAGAGGTGTGGGCTTCTACTTGGTGGCTGACTGATGCTGGGATGCTACATCTCTTGTCTCTGTTGGAAAGTTC...TAAAGTTC 745

Mus Rattus Cavia Homo
CCAGTACCAAGATGAGCCCAAG...TGAATGCTGGTGGGA...TGGGATACTCCTAGTTTCTCAATGATTTAGTACCCAGGAGATAAATCTGACACTGATTG 1009
CCAGTACCAAGATGAGCCCAAG...TGAATGCTGGTGGGA...TGGGATACTCCTAGTTTCTCAATGATTTAGTACCCAGGAGATAAATCTGACACTGATTG 1040
CCAGTACCAAGATGAGCCCAAG...TGAATGCTGGTGGGA...TGGGATACTCCTAGTTTCTCAATGATTTAGTACCCAGGAGATAAATCTGACACTGATTG 1033
CCAGTACCAAGATGAGCCCAAG...TGAATGCTGGTGGGA...TGGGATACTCCTAGTTTCTCAATGATTTAGTACCCAGGAGATAAATCTGACACTGATTG 853

Mus Rattus Cavia Homo
CAAGTTGTGTGCTTCAAAACCCAG 1035
TAGATTGTGTGCTTTAAACCCAG 1066
AAGGTTGCTTGTCTTCTG...TCCAG 1057
TCCAAAGTGTGCTTTAA 877

ENSMUSG00000031090 intron 4

Description: Glutamine-dependent NAD (Nadsyn1)

Intron number: 4

Mouse chromosome: 7

Upstream exon length: 54

Downstream exon length: 90

Mouse intron length: 498

Intron alignment length: 688

Total murinae branch length: 0.13169

K_score: 0.06118

Scaling factor: 0.688

ENSMUSG00000031090 exon 4 (ORF 1)

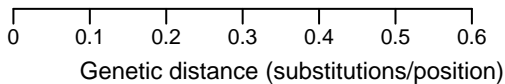
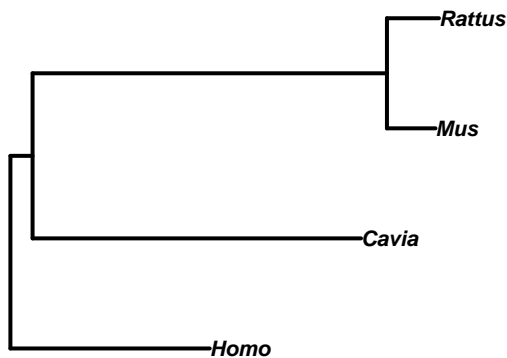
Mus	GCCTATAATGCACCGGAATGTTCCCTACAACCTGCAGAGTCATCTTTCTCAACAG	54
Rattus	GCCTATAATGCACCGGAATGTTCCCTACAACCTGCAGAGTCATCTTTCTCAACAG	54
Cavia	GCCTGTTGATGCACCGGAATGTTCCCTACAACCTGCAGAGTCATCTTTCTCAACAG	54
Homo	GCCTGTTAATGCACCGGAATGTTCCCTACAACCTGCAGAGTCATCTTTCTCAACAG	54

ENSMUSG00000031090 exon 5 (ORF 1)

Mus	GAAGATCTGCTCATCAGACCCAAAGATGGCCTTGGCCAACGAAGGCAACTACCGGGAAGCTGCGCTGGTTTACCCCTGGA	80
Rattus	GAAGATCTGCTCATCAGACCCAAAGATGGCCTTGGCCAATGAAGGCAACTACAGGGAAGCTGCGCTGGTTTACCCCTGGG	80
Cavia	GAGGATCTGCTCATCAGACCCAAAGATGGCCTTGGCAATGAAGGCAACTACCGTGAAGCTGCGCTGGTTTACCCCTAGGT	80
Homo	GAAGATCTGCTCATCAGACCCAAAGATGGCCTTGGCCAATGAAGGCAACTACCGCGAGCTGCGCTGGTTTACCCCTGTGT	80

Mus	CCAGGAGCCG	90
Rattus	CCAGGAGCCG	90
Cavia	GAGGAGCCG	90
Homo	GAGGAGTCCG	90

ENSMUSG00000031090_intron_4



ENSMUSG00000010205 intron 10

Description: Ribonucleoprotein PTB-binding 1 (Raver1)

Intron number: 10

Mouse chromosome: 9

Upstream exon length: 75

Downstream exon length: 144

Mouse intron length: 459

Intron alignment length: 880

Total murinae branch length: 0.16701

K_score: 0.08305

Scaling factor: 0.68806

ENSMUSG00000010205 exon 10 (ORF 0)

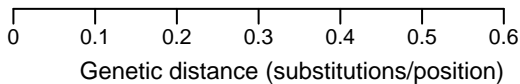
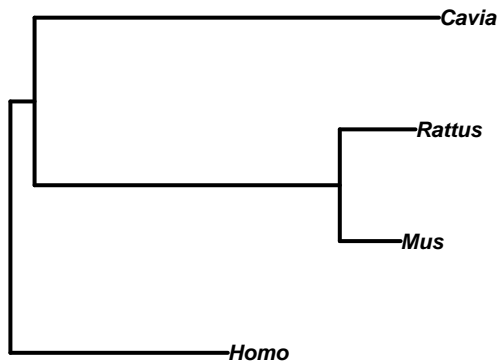
Mus	GATGTGGGACCTAGACCGA	ACTCTTCTCCCAACCTT	CGGGAACCAACCTTAGGG	CCTCATGGC	CCCAGCCGACACCAAG	75
Rattus	GATGTGGGACCTAGACCGG	CTCTCTCCCAACCTT	CGGGAATCAAACTTAGGG	CCTCATGGC	CCCAGCCGACACCAAG	75
Cavia	GATGTGGGACCTAGACCG	CTCTCTCCCAACCTT	CGGGAACCAACCTTAGGG	CCTCATGGC	CCCAGCCGACACCAAG	75
Homo	GATCATGGGACCTAGACCG	CTCTCTCCCAACCTT	CGGGAACCAACCTTAGGG	CCTCATGGC	CCCAGCCGACACCAAG	75

ENSMUSG00000010205 exon 11 (ORF 0)

Mus	ATGTCCCCCACCCTAGCAG	GGCTTCAATGAGCC	CCGAAGTGGTGGAGGC	AGTGGGGGACCCCT	TCTCTCATT	TTACTCTGG	80
Rattus	ATGTCCCCCACCCTAGCAG	GGCTTCAATGAGCC	CCGAAGTGGTGGAGGC	AGTGGGGGACCCCT	TCTCTCATT	TTACTCTGG	80
Cavia	ATGTCCCCCACCCTAGCAG	GGCTTCAATGAGCC	CCGAAGTGGTGGAGGC	AGTGGGGGACCCCT	TCTCTCATT	TTACTCTGG	77
Homo	ATGTCCCCCACCCTAGCAG	GGCTTCAATGAGCC	CCGAAGTGGTGGAGGC	AGTGGGGGACCCCT	TCTCTCATT	TTACTCTGG	80

Mus	CTCACCCACCTCCTACTT	CACCAGTGGCCT	CAGGCTGGCCTCAAG	CAGAGCCACCTGAA	CAAG	144
Rattus	CTCACCCACCTCCTACTT	CACCAGTGGCCT	CAGGCTGGCCTCAAG	CAGAGCCACCTGAA	CAAG	144
Cavia	CTCACCCACCTCCTACTT	CACCAGTGGCCT	CAGGCTGGCCTCAAG	CAGAGCCACCTGAA	CAAG	141
Homo	CTGCCCCACTTTCCTACTT	CACCAGTGGCCT	CAGGCTGGCCTCAAG	CAGAGCCACCTGAA	CAAG	144

ENSMUSG00000010205_intron_10



Mus 109
Rattus 105
Cavia 74
Homo 72
GTAAGAGCCCTAGATACCCCTGTGTCTGCAGCATATAGTATGGCTATGTAATAAAGTGGACATCGAGTCAGCACAGCTGTATAACAAGAAGTCTTCCCTTATTA
GTAAGAACAAG--TGCCCTGTGTTTGCAGCGTACAGTATTGGCAGCGTAATAAAGTGGATGTAGCAGTCAGCACTAAGTGTAAACAAGAAGTCTTCCCTCCGTA
GTAAGAGCC-----GGCGCTTACACCCAGCCCTGCTGAGCAAGTACCCCTGGCTGTGACAGATGGCTCCCTGAGC-----
GTAAGAGCC-----AGCTTGGTATGGCATGTGTAGCAATCAGGTTTACGACATGACAGGCTGTGGCATGAGCTTAGTA

Mus 182
Rattus 146
Cavia 144
Homo 182
ACTGAGCTCCACAAG-----TCTTCCTATGTTGTCCAA-----
ACTGAGCTCCACAAG-----GAGGCA--TCTTCCTATGTAATGCAA-----
AATGAGCAGCGCAGACACTTGGCACTGAGTCCCGCTGTGAGGCTTTTC--AGCTGG--CTTCGATTTGGGCCCA-----
GGCTGAAAGAGCAGACCTTGTATTTTGTGTTTGTGGTTTTITTAAGACAGGATCTTCACTGTGTTGCCAGGCTGGAGTGCAGTGGCTCCATGATAGCTCACTGT

Mus 231
Rattus 178
Cavia 231
Homo 287
---CTCAAACCTTCTAGCTGCAAGCA-----TITTAATTATC
---GTCAAACCTTCTAGCTGCAAGCA-----TITTAATTATC
---CCAGCCTCTTGGCTTGAAGCT---CCTGAGTAGCTGGACTGCAGGCATAGGCTGTCTGGGCTGCCTGACAGATTITTTGTTTITTAATTATC
GGCTCAAACCTCTTGGCTTGAAGCTATCCTCCCACTTTGGCCTCCCAAAGTGTAGGATCAGAGGCATGAGGCACGATACGATGCAGGCATTGTT---ATTACTTCTT

Mus 270
Rattus 266
Cavia 339
Homo 377
ACCTTCAATGGGCACTAAGTCT-----GTTCCCTGGGGCTCAGCAGGGGCTCA-----CCCCATGGCTCACACAAGTGGTCAAGTCACTGTGAA--
ACCTTCAATGGGCACTAAGTCT-----GTTCCCTGGGGCTCAGCAGGGGCTCA-----CCCCATGGCTCACACAAGTGGTCAAGTCACTGTGAA--
ACTTTTGGCAAGGCTGGCTGACATTTCTCTCCGTCATCTGGAGCTGTGTAGCACTCAGTTGCTCTGGTGGTGGGAGTGGGCAAG
GGCATCTATGGGCAAGTGGCTGACATTTCTCTCCGTCATCTGGAGCTGTGTAGCACTCAGTTGCTCTGGTGGTGGGAGTGGGCAAG

Mus 324
Rattus 313
Cavia 441
Homo 463
---GTGAAGTCACTGGGCTC-----AGAGCATGGTCTTCCCTGAGCCACTGAGGCTTATC
---GTCAAACCTCACTGGGCTC-----AGAGCATGGTCTTCCCTGAGCCACTGAG--
AAGGAGGCTGGATAAGCTTATCACTGACCCACAGAAAGCTCCTCTCTCGGAAGTCTCTGGA-----GACTAAGGCCAAGCGGGCCTCACATCCAGCTGTC
ACAATTTCTGTC-----TGCCATTCCTGGGTGATGATCCTGGGTTCTGGAAGAGAGGAGGGGGTACCCACGTTCCAGCTCTC

Mus 420
Rattus 398
Cavia 493
Homo 573
CTCTTTGGTTCAGCTTCAATTTCTCAATGCTGTGGTCCAGAGGCTCCCGAGAAATATAACATGGACAAATGGAATCATGGTGGGCAAGGGT-----
CTCTTTGGTTCAGCTTCAATTTCTCAATGCTGTGGTCCAGAGGCTCCCGAGAAATATAACATGGACAAATGGAATCATGGTGGGCAAGGGT-----
CCAGCTCTGCTGCCAGCCTTGTATGGCACTCCGAGTCC-----CAGAAATATAACATGGACAAATGGAATCATGGTGGGCAAGGGT-----
CTCAGCTCTATAGCCAAAGCTTACTCTTGCAAAGCCAGAACTGCCGGCATGGTGGCTACCCCTGTAATCCAGCCTTTGGAGGCGGAGGCGGGGGGATCACTG

Mus 420
Rattus 398
Cavia 493
Homo 483
AGGTCGTGAGTGTGAGACCAGTCTGACCAACATGGAGAAACCCCGTCTCTACTAAAATACAAAAATTACTGGGCATGGTGGCCATGCCTGTAATCCAGCTACTCG

Mus 459
Rattus 441
Cavia 525
Homo 793
---LCCGGCCATGGTTTC-----CTGAGCTGAACCTTTCTCTGGAG
---TCCAACCTGATTTACCTCAGCTCAGCTGAACTTTCTCTGGAG
---ACCCCTTGTGATCAGGC--CCTTCTCTCGAG
GGAGGCTGAGGCAGGAAATCGCTTGAACCTGGGAGGCAAGGGAAAGATTGTATACAAAGGGCTGGCTACTACATTTCTCTCTTCACTGCAACCGGCTTCTCTACAG

ENSMUSG00000035078 intron 7

Description: Myotubularin-related protein 9 (Mtmr9)

Intron number: 7

Mouse chromosome: 14

Upstream exon length: 142

Downstream exon length: 221

Mouse intron length: 1393

Intron alignment length: 2256

Total murinae branch length: 0.18768

K_score: 0.07183

Scaling factor: 0.689

ENSMUSG00000035078 exon 7 (ORF 1)

Mus	GGAAGGTGCATCAGTGTGATTTCATGGGACAGAAAGGAACTGATTCCACACTGCAGGTGACTTCTCTGGCCCAAGATCATCC	80
Rattus	GGAAGGTGCATCAGTGTGATTTCATGGGACAGAAAGGAACTGATTCCACACTGCAGGTGACTTCTCTGGCCCAAGATCATCC	80
Cavia	GGAAGGTGCATCAGTGTGATTTCATGGGACAGAAAGGAACTGATTCCACACTGCAGGTGACTTCTCTGGCCCAAGATCATCC	80
Homo	GGAAGGAGCATCAATATTTGATTCACGGACAGAAAGGAACTGATTCCACACTGCAGGTGACTTCTCTGGCCCAAGATCATCC	80

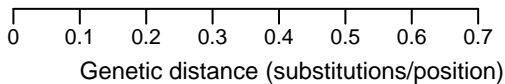
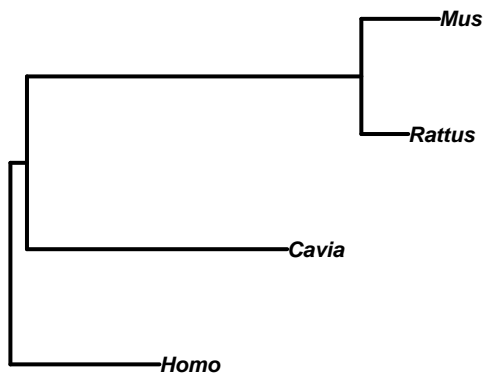
Mus	TGGAACCAAGAAGCAGGACCATCCGAGGCTTTGAGGCCCTGATAGAGAGGGAGTGGCTGCAG	142
Rattus	TGGAACCGAGAAGCAGAACCATCCGAGGCTTTGAGGCCCTGATAGAGCGAGAGTGGCTGCAG	142
Cavia	TGGAACCGAGAAGCAGGACCATCCGAGGCTTTGAGGCCCTGATAGAGAGGGAGTGGCTGCAG	142
Homo	TAGATCCAAAGAAGCAGGACCATTCGTGCTTTTGAAGGCCCTGATTTGAAAAGAGAGTGGCTGCAG	142

ENSMUSG00000035078 exon 8 (ORF 0)

Mus	GCTGGTCAACCAATCCAAACAGCGCTGTGCACAGTCAGCCTATTGCAGCAGCAAGCAGAAGTGGGAGGCCCCCGTGTTCCT	80
Rattus	GCTGGTCAACCAATCCAAACAGCGCTGTGCACAGTCAGCCTATTGCAGCAGCAAGCAGAAGTGGGAGGCCCCCGTGTTCCT	80
Cavia	GCTGGTCAACCAATCCAAACAGCGCTGTGCACAGTCAGCCTATTGCAGCAGCAAGCAGAAGTGGGAGGCCCCCGTGTTCCT	80
Homo	GCTGGTCAACCAATCCAAACAGCGCTGTGCACAGTCAGCCTATTGTAAACACCAAGCAGAAGTGGGAGGCCCTCCTGTATTCCT	80

Mus	TCTCTTCTGGACTGCCTGTGGCAGATCCTCCGGCAGTCCCTTTCCTCCTTCGAGTTTAAATGAGCATTTCATCATGG	160
Rattus	TCTCTTCTGGACTGCCTGTGGCAGATCCTCCGGCAGTCCCTTTCCTCCTTCGAGTTTAAATGAGCATTTCATCATGG	160
Cavia	TCTCTTCTGGACTGCCTGTGGCAGATCCTCCGGCAGTCCCTTTCCTCCTTCGAGTTTAAATGAGCATTTCATCATGG	160
Homo	TCTCTTCTTGGACTGCCTGTGGCAGATCCTTCGTCAAGTTCCCTGTTCTTTTGAATGAGATTTCATCATCATGG	160

ENSMUSG00000035078_intron_7



ENSMUSG00000038567 intron 2

Description: 1,25-dihydroxyvitamin D (Cyp24a1)

Intron number: 2

Mouse chromosome: 2

Upstream exon length: 191

Downstream exon length: 94

Mouse intron length: 756

Intron alignment length: 1579

Total murinae branch length: 0.16771

K_score: 0.08597

Scaling factor: 0.69088

ENSMUSG00000038567 exon 2 (ORF 0)

Mus	TCCGGATGAAGCTGGGCTTCCTTCGACTCGGTGCATCTGGGCTCGCCGAGCCTGCTGGAAGCTCTGTACCGCACAGAGAGG	80
Rattus	TCCGGATGAAGCTGGGCTTCCTTCGACTCGGTGCATCTGGGCTCGCCGAGCCTGCTGGAAGCTCTGTACCGCACAGAGAGG	80
Cavia	TCCGGATGAAGCTGGGCTTCCTTCGACTCGGTGCATCTGGGCTCGCCGAGCCTGCTGGAAGCTCTGTACCGCACAGAGAGG	80
Homo	TCCGGATGAAGCTGGGCTTCCTTCGACTCGGTGCATCTGGGCTCGCCGAGCCTGCTGGAAGCTCTGTACCGCACAGAGAGG	80

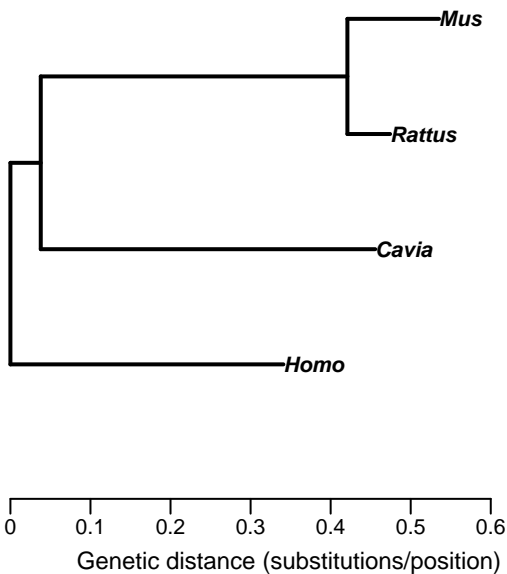
Mus	GCGCATCCCCAGCGGCTAGAGATCAAACCTTGGAAA GCCTATCGGGACCATCGCAACGAAGCCTACGGGGCTGATGATCCT	160
Rattus	GCGCATCCCCAGCGGCTAGAGATCAAACCTTGGAAA GCCTATCGGGACCATCGCAACGAAGCCTACGGGGCTGATGATCCT	160
Cavia	GCGCATCCCCAGCGGCTAGAGATCAAACCTTGGAAA GCCTATCGGGACCATCGCAACGAAGCCTACGGGGCTGATGATCCT	160
Homo	GCGCATCCCCAGCGGCTAGAGATCAAACCTTGGAAA GCCTATCGGGACCATCGCAACGAAGCCTACGGGGCTGATGATCCT	160

ENSMUSG00000038567 exon 3 (ORF 1)

Mus	GGAAGGACAGGAGCTGGCAGCGGGTCCGCAGCGCCTTCCAAAAGAAACTCATGAA GCCCGTGGAAATCATGAAGCTGGACA	80
Rattus	GGAAGGACAGGAGCTGGCAGCGGGTCCGCAGCGCCTTCCAAAAGAAACTCATGAA GCCCGTGGAAATCATGAAGCTGGACA	80
Cavia	GGAAGGACAGGAGCTGGCAGCGGGTCCGCAGCGCCTTCCAAAAGAAACTCATGAA GCCCGTGGAAATCATGAAGCTGGACA	80
Homo	GGAAGGACAGGAGCTGGCAGCGGGTCCGCAGCGCCTTCCAAAAGAAACTCATGAA GCCCGTGGAAATCATGAAGCTGGACA	80

Mus	AGAAAATCAATGAG	94
Rattus	AGAAAATCAATGAG	94
Cavia	GCAAAAATCAATGAG	94
Homo	ACAAAATCAATGAG	94

ENSMUSG00000038567_intron_2



Mus Rattus Cavia Homo
GTGAGTCAGTCCCTCTGCTGGAAGGAGACGATGG...GAGGCTGAACGTGCCGACAGTGGGAAGGGGAGTCGTAGAGTTCCTGGGA... 88
GTG...AGTCCCTTCTGCTGGTGGAGGGCGGTGG...GGGCTGGCGTGGGGAGAAAGGAGAGGGGAGTGGTTAGAGTTCCTAGCAGT... 88
GTG...AGTCCCTTCTGCTGGTGGAGGGCGGTGG...GGGCTGGCGTGGGGAGAAAGGAGAGGGGAGTGGTTAGAGTTCCTAGCAGT... 87
GTG...AGTCCCTTCTGCTGGTGGAGGGCGGTGG...GGGCTGGCGTGGGGAGAAAGGAGAGGGGAGTGGTTAGAGTTCCTAGCAGT... 106

Mus Rattus Cavia Homo
CCTATGAGAACGAATATAAAGCCCTGCTACCTAGAGCTGGTGGCATCCTGAA...ATTGTGCTGTAGAGAGTGGGTT... 170
CTTATGAGAACGAATATAAAGCCCTGCTACCTAGAGCTGGTGGCATCCTGAA...ATTGTGCTGTAGAGAGTGGGTT... 170
CTTATGAGAACGAATATAAAGCCCTGCTACCTAGAGCTGGTGGCATCCTGAA...ATTGTGCTGTAGAGAGTGGGTT... 192
CTTATGAGAACGAATATAAAGCCCTGCTACCTAGAGCTGGTGGCATCCTGAA...ATTGTGCTGTAGAGAGTGGGTT... 212

Mus Rattus Cavia Homo
TCACAAGCATTACAG... 185
TCACAAGCATTACAG... 185
CGCTTTGCCCTCGGA... 207
CTGGTTGCTCTGGCAACAGGGCAGGGCCACACCCCTCCCATCAAAGAAAGCCCAAACAGGGTTGTACCAACTGTGGTGTTCAGACTCTTGGCAGGATGAGGTTCTGA 322

Mus Rattus Cavia Homo
AGTCAGCGTACCAGGCAACATCTTATACAAACAAAATTATCCCTTAAACTCCCTGAAACACCTTGTAAAGCTCAAAGGGAGGAGTTAGCCTCTTTGGCTTTTACAGT 432

Mus Rattus Cavia Homo
GACATTTTCTGCAGAGGATTGGGGACATGCCTTATTTCTACTTGTAAAGGTGGAATAAGGAGGGATATCAAAGTTGTGTTTTAGGTCGACAAATGCTACTATGGGATGT 542

Mus Rattus Cavia Homo
GATTCTTCTGCTTTTTAGTTGTTAGCATTAAACAAGTTAGCACCTTTATTTACCCCAAACCTGTAAAGCTAACTGTTATATTTCCAGGATATAATGACTGGAATTA 652

Mus Rattus Cavia Homo
AACCTTATTAATCACGGTCTTACAGGCTGTATGGTCTGCTATGGGGCAGGTGCCTACAAGTGACCGATCGCAAAGGCTTTTTATTACTCCAGTGACTCTCTGACTG 762

Mus Rattus Cavia Homo
...TGAAGGGAATGCACACATG... 203
...TGAAGGGAATGCACACATG... 205
AGCTTATTGTACCAATAATGGAAAAGTGCACATTTGAGGGTGTGTTTAAATAAATAAAAGTGTGATGCCAAGTCAAGTAAAGTGGAAATAAAAGTTTGTCCCTCAAC 316
ATGTTATTATTTGGAGGCCATGCAAAAATCTAATCTGAGATATTTGTTAAATAAATAAGGCGCACAC...GCAATGAGTTGAAAAGAGCAAGATTTCTTCCGTAAG 867

Mus Rattus Cavia Homo
...GTGGCTCCCAACAGGACACATCAAAGCAACATGC 240
...GTGGCTCCCAACAGGACACATCAAAGCAACATGC 242
...GTGGCTCCCAACAGGACACATCAAAGCAACATGC 335
...GTGGCTCCCAACAGGACACATCAAAGCAACATGC 977

Mus Rattus Cavia Homo
CCGCTTATTGGGCTTACCTTCAAGTCTGCTTTGGGCAAGA...CTTAAACCTAAGCTCAAACCA... 306
CCGCTTATTGGGCTTACCTTCAAGTCTGCTTTGGGCAAGA...CTTAAACCTAAGCTCAAACCA... 308
CCACTTAAATATGGGCTCAATCTTCTCACAGGATCCAGGTTAAGAGGACAGTGCCTTCCATGGGCTCTGTAAACAAGCA...GCCCT 481
CCAAAATATCTGGACTTCAACTTTTGGTGGAAATCTTGTAGGAGGAAGGTGCTT...TTTCTCCTATTTGTCAAACATTGTCAAAGATGATCACTATTTTATCCG 1085

Mus Rattus Cavia Homo
AATAATTTAAGCTGTGACAAATTTAATACGTTTATAATGATTTCCGGTCCATTCATCACTCAAGTCCCTCTGTGATCTCCCAACCACTCTATGAGATTCT 415
AATAATTTAAGCTGTGACAAATTTAATACGTTTATAATGATTTCCGGTCCATTCATCACTCAAGTCCCTCTGTGATCTCCCAACCACTCTATGAGATTCT 417
GATACCTTAAATGCTTAA...ATTCTCTGGGTATTTCTTGGCATGATCT 504
AATAATTTAAGCTGTGACAAATTTAATACGTTTATAATGATTTCCGGTCCATTCATCACTCAAGTCCCTCTGTGATCTCCCAACCACTCTATGAGATTCT 1132

Mus Rattus Cavia Homo
CCCTCTGCCCAGAAATTTCTCTCCCTATTTCAAGTCTTTTTTAA...TTTGTGTTTAACTCTGTGAATTTGCTCCATGACCATAGGTGGGGCTATTTAGAGCACAG 525
CCCTCTGCCCAGAAATTTCTCTCCCTATTTCAAGTCTTTTTTAA...TTTGTGTTTAACTCTGTGAATTTGCTCCATGACCATAGGTGGGGCTATTTAGAGCACAG 522
C... 505
C... 1133

Mus Rattus Cavia Homo
ATCTTGTCAAGGCTACACACTACTGTTGAAAAATTGACTACCCCTTCCATTAAGCGCCATAAGCATCAATCAGCTCAGAGAGAGACAGTGTAGGCTCTCTCGGGTCAGT 614
AAGTTG...GAGGCTACACTACTGTTGAAAAATTGACTACCCCTTCCATTAAGCGCCATAAGCATCAATCAGCTCAGAGAGAGACAGTGTAGGCTCTCTCGGGTCAGT 630
... 605
... 1133

Mus Rattus Cavia Homo
ATGGCTGATGGCGCCCGAAATTTCAATGAGAGCTAAGATTCTGAGACTTT...CAGGCGATCTTGGGGTTAGTTTTGCGCTCCCGAATCACTGCCAGGCTC 721
ATGGCTGATGGCGCCCGAAATTTCAATGAGAGCTAAGATTCTGAGACTTT...CAGGCGATCTTGGGGTTAGTTTTGCGCTCCCGAATCACTGCCAGGCTC 719
... 558
... 1199

Mus Rattus Cavia Homo
TTTTCTGGTCTTAAACCATACCCCTTCTCTG...CAG 756
TTTTCTGGTCTTAAACCATACCCCTTCTCTG...CAG 754
TTTTCTGGTCTTAAACCATACCCCTTCTCTG...CAG 596
TTTTCTGGTCTTAAACCATACCCCTTCTCTG...CAG 1238

ENSMUSG00000030374 intron 9

Description: Striatin-4 (Strn4)
 Intron number: 9
 Mouse chromosome: 7
 Upstream exon length: 95
 Downstream exon length: 176
 Mouse intron length: 1345
 Intron alignment length: 1457
 Total murinae branch length: 0.17228
 K_score: 0.04523
 Scaling factor: 0.69218

ENSMUSG00000030374 exon 9 (ORF 2)

Mus	-----ACGCTCTTCATCATGGACACTATCGGGGGCGGGGAGGTGAGCCCTGGGGGACTTGGCCAGAT	59
Rattus	GTTTCCTTTGGCTTCTCCTCAGACGTCTTCATCATGGACACTATCGGGGGCGGGGAGGTGAGCCCTGGGGGACTTGGCCAGAT	80
Cavia	GTTTCCTTTGGCTTCTCCTCAGACGTCTTCATCATGGACACTATCGGGGGCGGGGAGGTGAGCCCTGGGGGACTTGGCCAGAT	80
Homo	GTTTCCTTTGGCTTCTCCTCAGACGTCTTCATCATGGACACTATCGGGGGCGGGGAGGTGAGCCCTGGGGGACTTGGCCAGAT	80

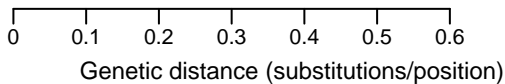
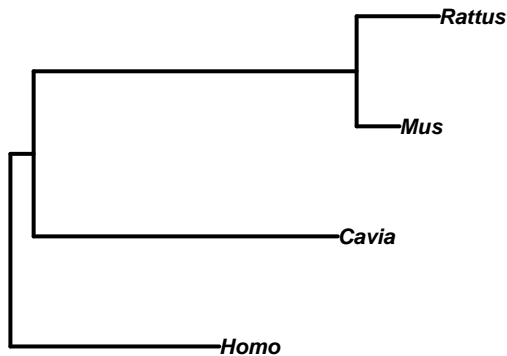
Mus	CTCACCGTCACCAATGACAACGACCTCAGCTGTGAT	95
Rattus	CTCACCGTCACCAATGACAACGACCTCAGCTGTGAT	116
Cavia	CTCACCGTCACCAATGACAACGACCTCAGCTGTGAT	116
Homo	CTCACCGTCACCAATGACAACGACCTCAGCTGTGAT	116

ENSMUSG00000030374 exon 10 (ORF 0)

Mus	CTGTCTGACAGCAAAGAAGCTTTCAAGAAGACATGGAACCCCAAGTTTACCCTCCGCTCACACTACGATGGCATCCGCTC	80
Rattus	CTGTCTGACAGCAAAGAAGCTTTCAAGAAGACATGGAACCCCAAGTTTACCCTCCGCTCACACTACGATGGCATCCGCTC	80
Cavia	CTGTCTGACAGCAAAGAAGCTTTCAAGAAGACATGGAACCCCAAGTTTACCCTCCGCTCACACTACGATGGCATCCGCTC	80
Homo	CTGTCTGACAGCAAAGAAGCTTTCAAGAAGACATGGAACCCCAAGTTTACCCTCCGCTCACACTACGATGGCATCCGCTC	80

Mus	CCTGGCCTTCCACCACAGCCAGTCAGCACTGCTTACTGCCTCTGAGGATGGCACACTCAAAGCTTGGAAACCTGCAGAAGG	160
Rattus	CCTGGCCTTCCACCACAGCCAGTCAGCACTGCTTACTGCCTCTGAGGATGGCACACTCAAAGCTTGGAAACCTGCAGAAGG	160
Cavia	CCTGGCCTTCCACCACAGCCAGTCAGCACTGCTTACTGCCTCTGAGGATGGCACACTCAAAGCTTGGAAACCTGCAGAAGG	160
Homo	CCTGGCCTTCCACCACAGCCAGTCAGCACTGCTTACTGCCTCTGAGGATGGCACACTCAAAGCTTGGAAACCTGCAGAAGG	160

ENSMUSG00000030374_intron_9



ENSMUSG00000021559 intron 3

Description: Death-associated protein kinase 1 (Dapk1)

Intron number: 3

Mouse chromosome: 13

Upstream exon length: 139

Downstream exon length: 130

Mouse intron length: 1197

Intron alignment length: 1525

Total murinae branch length: 0.17118

K_score: 0.05749

Scaling factor: 0.69278

ENSMUSG00000021559 exon 3 (ORF 1)

Mus	TGTTGCAGGAGGCTGAGCTGTTTGACTTCTGGCTGAGAAAGGAATCTCTGACTGAAAGAGGAGGCAACGGAATTCCTTAAAGC	80
Rattus	TGTTGCAGGAGGCGAGCTGTTTGACTTCTGGCTGAGAAAGGAATCTCTGACTGAAAGAGGCAACGGAATTCCTTAAAGC	80
Cavia	CGTTGCAGGCTGGCGAGCTGTTTGACTTCTTAGCTGAAAAGGAATCTCTGACTGAAAGAGGCAACGGAATTCCTTAAAGC	80
Homo	CGTTGCAGGCTGGCGAGCTGTTTGACTTCTTAGCTGAAAAGGAATCTCTGACTGAAAGAGGCAACGGAATTCCTTAAAGC	80

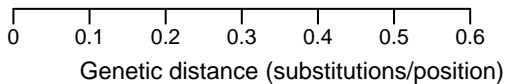
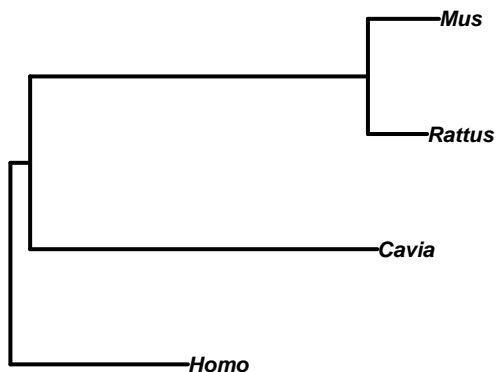
Mus	AGATTCTCAGCGGCCTTTACTACCTGCACTCACTGCAGATCGGTTCACTTTGACCTGAAG	139
Rattus	AGATTCTCAGCGGCCTTTACTACCTGCACTCACTGCAGATCGGTTCACTTTGACCTGAAG	139
Cavia	AGATTCTTAAATGGTGTTACTACCTGCACTCGCTTCAATCGGCCACTTTGACCTGAAG	139
Homo	AAATTCTTAAATGGTGTTACTACCTGCACTCGCTTCAATCGGCCACTTTGATCTTAAAG	139

ENSMUSG00000021559 exon 4 (ORF 0)

Mus	CCGGAAAACATAATGCTTCTGGATAGAAATGTGCCAAACCTCGGATCAAGATCATAGACTTTGGCTTGGCCCATAAAAAT	80
Rattus	CCGGAAAACATAATGCTTCTGGATAGAAATGTGCCAAACCTCGGATCAAGATCATAGACTTTGGCTTGGCCCATAAAAAT	80
Cavia	CCTGAGAACATAATGCTTTGGATAGAAATGTGCCAAACCTCGGATCAAAATCATCGACTTTGGCTTGGCCCATAAAAAT	80
Homo	CCTGAGAACATAATGCTTTGGATAGAAATGTGCCAAACCTCGGATCAAGATCATAGACTTTGGCTTGGCCCATAAAAAT	80

Mus	TGACTTTGGAAAATGAATTCAAAAACATATTTGGGACACCAGATTTGTGG	130
Rattus	TGACTTTGGAAAATGAATTCAAAAACATATTTGGGACACCAGATTTGTGG	130
Cavia	TGACTTTGGAAAATGAATTCAAAAACATATTTGGGACACCAGATTTGTGG	130
Homo	TGACTTTGGAAAATGAATTTAAAAACATATTTGGGACCTCCAGATTTGTGG	130

ENSMUSG00000021559_intron_3



ENSMUSG00000021559 intron 12

Description: Death-associated protein kinase 1 (Dapk1)

Intron number: 12

Mouse chromosome: 13

Upstream exon length: 99

Downstream exon length: 99

Mouse intron length: 647

Intron alignment length: 1450

Total murinae branch length: 0.20007

K_score: 0.04469

Scaling factor: 0.69365

ENSMUSG00000021559 exon 12 (ORF 0)

Mus	CATGGGACACCTCCATTACTGATTGGCGCAGGCTGTGGCAACATCCAGATGTTACAGTTACTCATAAAAAGAGGGCTCAAG	80
Rattus	CATGGGACACCTCCATTACTGATTGGCGCAGGCTGTGGCAACATCCAGATGTTACAGTTACTCATAAAAAGAGGGCTCAAG	80
Cavia	CATGGGACACCTCCATTACTGATTGGCGCAGGCTGTGGCAACATCCAGATGTTACAGTTACTCATAAAAAGAGGGCTCAAG	80
Homo	CATGGGACACCTCCATTACTGATTGGCGCAGGCTGTGGCAACATCCAGATGTTACAGTTACTCATAAAAAGAGGGCTCAAG	80

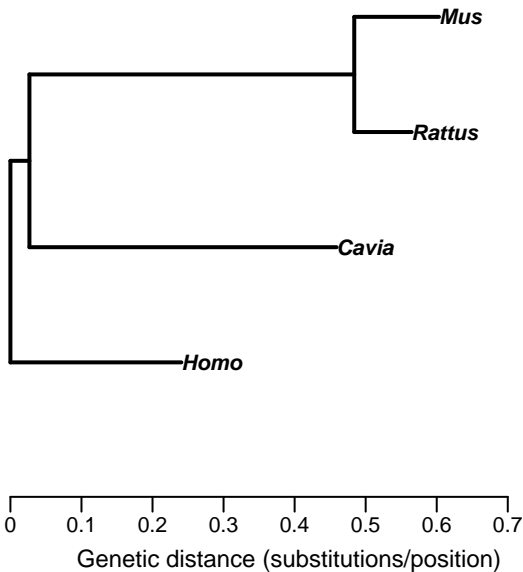
Mus	GATTGACGTCCAGGATAAG	99
Rattus	GATTGACGTCCAGGATAAG	99
Cavia	AATTGATGTCCAGGATAAG	99
Homo	AATTGATGTCCAGGATAAG	99

ENSMUSG00000021559 exon 13 (ORF 0)

Mus	GGAGGATCCAATGCCATCTACTGGGCCTCTCGGCATGGCCATGTGGATACTTTGAAATTTCTCAATGAGAACAATGCC	80
Rattus	GGAGGATCCAATGCTATCTACTGGGCCTCTCGGCATGGCCATGTGGATACTTTGAAATTTCTCAATGAGAACAATGCC	80
Cavia	GGAGGATCCAATGCTGCTACTGGGCAGCTCGGCATGGCCATGTGGATACTTTGAAATTTCTCAATGAGAACAATGCC	80
Homo	GGAGGATCCAATGCCGCTACTGGGCCTCTCGGCATGGCCATGTGGATACTTTGAAATTTCTCAATGAGAACAATGCC	80

Mus	TTTGGATGTTAAAGACAAG	99
Rattus	TTTGGATGTTAAAGACAAG	99
Cavia	TTTGGATGTGAAGACAAG	99
Homo	TTTGGATGTGAAGACAAG	99

ENSMUSG00000021559_intron_12



ENSMUSG00000021499 intron 5

Description: Cation channel sperm-associated protein 3 (Catsper3)

Intron number: 5

Mouse chromosome: 13

Upstream exon length: 141

Downstream exon length: 120

Mouse intron length: 382

Intron alignment length: 444

Total murinae branch length: 0.19633

K_score: 0.06139

Scaling factor: 0.69488

ENSMUSG00000021499 exon 5 (ORF 0)

Mus	GTTGATGGCTGSACTGACCTGCAGGAAGAGCTGGACAACAAGGAAGTTTACTGTGAGCCCGGGCGTTTACTATCCTCTTCAT	80
Rattus	GTTGATGGCTGSACTAAGCTTACAGGAGCAACTGGACAACGGGAAGTTTACTGTGAGCCCGGGCATTTACCATCGTCTTCAT	80
Cavia	GTTGATGGCTGSACTGACCTGCAGGAGCAGCTGGACAACGGAAGTTTACTGTGAGCCCGAATTTACCATCGTCTTCAT	80
Homo	GTTGATGGCTGSACTGACCTGCAGGAAGAGCTGGACAACGGAAGTTTACTGTGAGCCCGGGCATTTACCATCGTCTTCAT	80

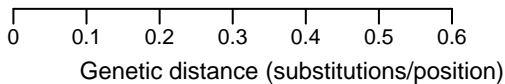
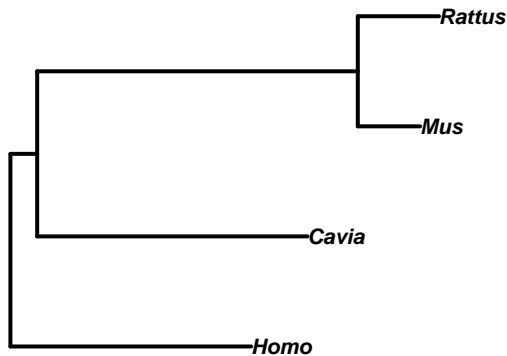
Mus	CTTGCTTGCATCCTTCATCTTCTCAACATGTTTGTGGTGTGATGATCATGCACACGGAG	141
Rattus	CTTGCTTGCCTCCTTCATCTTCTCAACATGTTTGTGGTGTGATGATCATGCACACAGAG	141
Cavia	CTTGCTTGCCTCCTTCATCTTCTCAACATGTTTGTGGTGTGATGATCATGCACACGGAG	141
Homo	CTTGCTTGCCTCCTTCATCTTCTCAACATGTTTGTGGTGTGATGATCATGCACACAGAG	141

ENSMUSG00000021499 exon 6 (ORF 0)

Mus	GATTCATCAAAAAAGTTTGAAGCGGATCTGACGTTGGAGAAGAACTTTGGCACTTATGGAGGAGAAGCAAAATATCCTGAA	80
Rattus	GATTCATCAAAAAAGTTTGAAGCGGAGATGACATTTGGAGAAGAACTTTGGCACTTATGGAGGAGAAGCAAAATGATCTGAA	80
Cavia	GTCTCCATCAAGAAAGTTTGAAGAAAGACCAAGCTTCTGAAGAAAGCA-- --TGAAGGAGAAGAGCAGATGATCTGAA	74
Homo	GACTCCATCAAGAAAGTTTGAAGCGAGAGCTGATGTTGGAGCAAGCAAGGATGCTCATGGAGAGAGAAGCAAGGTGATTCTCA	80

Mus	ACGCCAGCAAGAGGAGCTCAACAGGCTGATGAACAACACAG	120
Rattus	ACGACAGCAAGATGAGTCAACAGGCTGATGAACAACACAG	120
Cavia	ACGACAAAAGGAGGAGSTCAACAGGCTGATGAACAACACAG	114
Homo	GCGGCAGCAAGSAGSAGATCAGCAGGCTGATGACATAACAG	120

ENSMUSG00000021499_intron_5



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Mus      G T G A G C A T G T T A G T G T G T C T T G T G T G T G T C T G T G T G T G T G T G T G T G T A T A C C C A T G C C T T A G G T T A G G T G T G C - - - - - C A G G T A T G G C T 104
Rattus  G T G A G C G G T G C A - - - - - G C G T G T C T G C C A T G T G C A T A C G T G C C A T G T G C T A C C C A T G G C T C G G T T A G G T G T G C C A G G T A C A G G T A T G G C 90
Cavia   G T G A G C C T G T G C T - - - - - G C G T G T C T G C C A T G T G C A T A C G T G C C A T G T G C T A C C C A T G G C T C G G T T A G G T G T G C C A G G T A C A G G T A T G G C 80
Homo    G T G A G G C A C A G C - - - - - T T G T A G C A T T G G A G C T T A G G G T A G G T G T G C C A G T G C A G G T G T A G G T G T A G G T G T A G G T G T A G G T G T A G G T 80

Mus      C A T G T T T C T T G G A C A A G C T G C - - - - - A A T T G T G T C T T - - - A T G A A G A G G T G T A G A G C T A A C C A A T G G T C C C C C T C T C A T G G G T A C C C A A C C C - - - - - 189
Rattus  C A G A T T T C T T G G A C A A G C T G C - - - - - A A T T G G T C T T - - - C T G A A G T G C T G T A G A G G T A A G G A A A G G C C C C C T C T C A T T T G A G C C A A C T G - - - - - 174
Cavia   C A G G T A T C A A G G A G A A C C A G - - - - - A G G T G T G T C T T A T C C T G A A G T G G A G T G A G G T C T G A G C T G G G C C C C C C T A C T T - - - C A A C T C T T C C C C T G A C A 158
Homo    C A A G T C T C A G G A G G A C T G A G C T G T G T A G C T G T G T C T C C C A T G A A G T G G A G T A G A G G T G C C A G A T G G A C C T G T C C C T C A C C C G G C C C A A C T C T C T C C C T G A C 170

Mus      - - - T G C A A G T T C A T C A C C T T A T G A T G G A G G G C A C C A A C C A T G G A G C T T A A G A A A C C G T T G C A - - - - - G G G G C T G G C C T G T G T G A G G T 271
Rattus  - - - T A C A A G T T C A - C A C C T C G T G A T G G A G G G C A C C A G G T C A G T G G A G C T T A A G A A A C C A T T G T A G - - - - - G T G C C A G C T T G A G T T G G G G C T G G C C C T G G T G G G T 275
Cavia   T T T G C A T T T T T C T T C C T T A T G A T G G T - - - - - G G G T G A G C T T G G G G C T G G C T C - G A A T G G G C 216
Homo    C A G T G C A T T T T G C T T G C C T G C T G A T G G T - G G T C A C A G G A C G G T G G G C T T A A G A A C C C T C T G C A G C T A C A G T T G G C A G C T T G A G - T G G C G G C T G G C C C T G T G T G G G A 278

Mus      G G C C T T T C T G C T G A G - G C C T G A G C A G C A G G C A A G C T A G G C A A G G A G A A G G C T T G A A T G A A A G G G T G T A - - G G A A C A C A A T C C T G A C T T T G T A T A T T C T G C C G T C 378
Rattus  G G C C T T T C T G C T G A G - G C C T G A G C A T C A G G C A A G G T A G G A A A G G A G A G G C T T G A A T G A A A G G G T G T G - - G G G A C A C C A T C C T G A C T T G T A T A T T C T G C T A 381
Cavia   A T G C C T T C T G C T G A C A A G C T A G C A G C A G G G A G G A G G C A A G G A G G A A G A G T C C A G G G A G A A R S T S A C T G A S A G C T T C C G G T G C T T G A C C T - - - - - C T G A 320
Homo    A A G T G C T C T G C T G A G G C C T G A G C A G G T G C A A G A C T G G G A A G A G A A A S A C T G - G T C G G C A T G A G G A G A G C C T G T A G T G A C C T C A T C C T C T G A C T C 385

Mus      T T A G 382
Rattus T T A G 385
Cavia  C T A G 324
Homo   C T A G 389

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ENSMUSG00000048677 intron 11

Description: Two pore calcium channel protein 2 (Tpcn2)

Intron number: 11

Mouse chromosome: 7

Upstream exon length: 101

Downstream exon length: 82

Mouse intron length: 443

Intron alignment length: 742

Total murinae branch length: 0.20397

K_score: 0.08783

Scaling factor: 0.69557

ENSMUSG00000048677 exon 11 (ORF 0)

Mus	A A A T C T C T A C A G A C C T C A C T G T T C C G G C G G C G A C T G G G G G C C C G T G C A G C C T A C G A A G T C C T G G C C T C C A G G G C C G G G C C	80
Rattus	A A A T C T C T A C A G A C C T C A C T G T T C C G G C G G C G A C T A G G G G C C C G T G C G G C C T A T G A A G T C C T A G C C T T C A G G G A G G G C C	80
Cavia	A A A T C T C T G C A G A C C T C G C T G T T C C G G C G G C C C C T G G G C A C C C G T G C T G C C T A T G A G T C C T A T C C T C C A T G C A G G G C	78
Homo	A A A T C T C T C C A G A C C T G C T G T T C G G A G G G C G C T G G G A A C C C G G G C T G C C T T T G A A G T C C T A T C C T C C A T G C T G G G G A	80

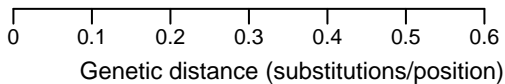
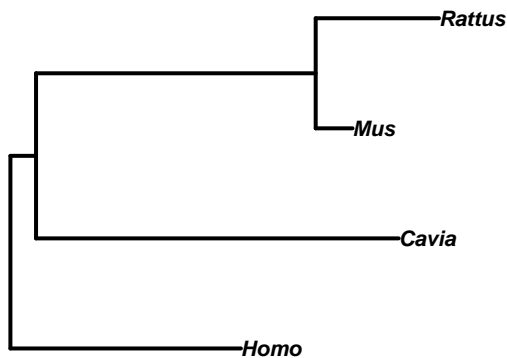
Mus	A G C T G G A A C C A C C C C T G A G T T	101
Rattus	A A A T G G A A C C A C C C T G A G T T	101
Cavia	- - - G G A G C C G C T C C T G A G A C	95
Homo	G G A G G A G C C T T C C C T C A G G C	101

ENSMUSG00000048677 exon 12 (ORF 1)

Mus	A G T T G G G G T G A A T C C T G A G A C C T T C C T G C C A G T G C T T C A G A A A A C C C A G C T G A A C A A A A C C C A C A A A C A A G C C A T T A T G C	80
Rattus	A G T C G G G G T A A A T C C C G A G A A C T T C C T G C G A G T G C T T C A G A A A A C C C A G C T G A A C A A A A T C C A C A A A C A A G C C A T C A T A G C	80
Cavia	A G C T G G A G T G C G G C C T C A C A C C T T A C T G C A G G T G C T G C A G A A A G T G C A G A T G A G C G G T T C T C A C A A A C A A G G C C A T C A T G C	80
Homo	A G T T G G G G T G A A G C C C C A G A A C T T G C T G C A G G T G C T T C A G A A G G T C C A G C T G G A C A G C T C C C A C A A A C A A G G C C A T G A T G C	80

Mus	A G	82
Rattus	A G	82
Cavia	A G	82
Homo	A G	82

ENSMUSG00000048677_intron_11



ENSMUSG00000026272 intron 3

Description: Serine--pyruvate aminotransferase, mitochondrial Precursor (Agxt)
 Intron number: 3
 Mouse chromosome: 1
 Upstream exon length: 65
 Downstream exon length: 101
 Mouse intron length: 540
 Intron alignment length: 608
 Total murinae branch length: 0.14773
 K_score: 0.08125
 Scaling factor: 0.69612

ENSMUSG00000026272 exon 3 (ORF 2)

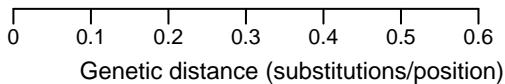
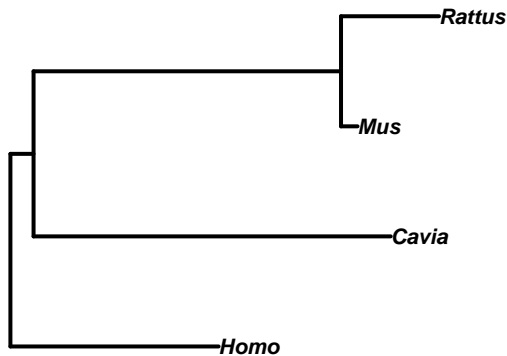
Mus	GAGCCCGTGTGCACCAGATGATCAAGAAGCCTGGAGAACATTATACCACTGCAGGAGGTTGGAGGAG	65
Rattus	GAGCCCGTGTGCACCAGATGATCAAGAAGCCTGGAGAACATTATACCACTGCAGGAGGTTGGAGGAG	65
Cavia	GAGCCCAATGTGCACGCCATGATCAAGAAGCCTGGAGAAGCTACTACCACTGCAGGAGGTTGGAGGAG	65
Homo	GAGCCCGAATGTGCACCGCATGATCAAGGACCCCTGGAGGCTACTACCACTGCAGGAGGTTGGAGGAG	65

ENSMUSG00000026272 exon 4 (ORF 0)

Mus	GGCCTGGCCCAACACAAAACCGGTATTGCTGTTCTGCTCCACGGGGAGTCAATCCACTGGGGTGGTGCAGCCCTGGATGG	80
Rattus	GGCCTGGCCCAACACAAAACCGGTATTGCTGTTCTGCTCCACGGGGAGTCAATCCACTGGGGTGGTGCAGCCCTGGATGG	80
Cavia	GGCTTGGCCCAAGCAACAAGCCAGTCTGCTGTTCTGACCCCAAGGGGGAGTCAATCCACTGGGGTGGTGCAGCCCTGGATGG	80
Homo	GGCCTGGCCCAAGCAACAAGCCAGTCTGCTGTTCTTAAACCAAGGGGGAGTCAATCCACTGGGGTGGTGCAGCCCTGGATGG	80

Mus	TTTTGGGGAGCTCTGCCAATAG	101
Rattus	TTTTGGGGAGCTCTGCCACAG	101
Cavia	CTATGGGGAGCTGTGTACACAG	101
Homo	CTTCGGGGAACTCTGCCACAAG	101

ENSMUSG00000026272_intron_3



ENSMUSG00000023945 intron 7

Description: High affinity choline transporter 1 (Slc5a7)

Intron number: 7

Mouse chromosome: 17

Upstream exon length: 218

Downstream exon length: 630

Mouse intron length: 1527

Intron alignment length: 2150

Total murinae branch length: 0.24380

K_score: 0.08861

Scaling factor: 0.69778

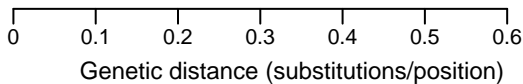
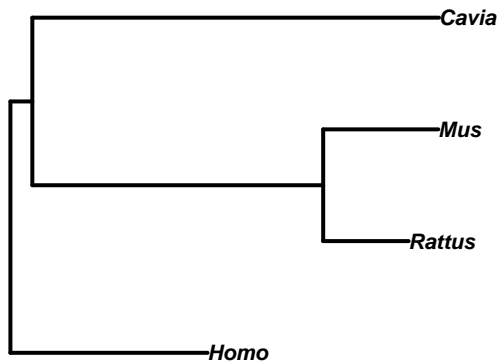
ENSMUSG00000023945 exon 7 (ORF 2)

Mus	GATTCTCCCGATCGTTCTGCAGTACCTCTGCCCTGTGTACATTCTCCTTCCTTTGGGCTTGGTGCTGTTTCAAGCTGCTGTCA	80
Rattus	GATTCTCCCGATCGTTCTGCAGTACCTCTGCCCTGTGTACATTCTCCTTCCTTTGGGCTTGGTGCTGTTTCTGCTGCTGTCA	80
Cavia	GATTCCTCCCGATCGTTCTGCAGTACCTCTGCCCTGTGTACATTCTCCTTCCTTTGGGCTTGGTGCTGTTTCTGCTGCTGTCA	80
Homo	GATTTTACC AATTTGTTCTGCAGTATCTCTGCCCTGTGTATATTTCTTTCTTTGGTCTTGGTGCAAGTTTCTGCTGCTGTAA	80
Mus	TGTCCTCAGCTGACTCGTCCATCCTGTGGGCGAGTCTATGTTTGCTCGGAATATCTACCAGCTTTCCTTCAGACAAAAA	160
Rattus	TGTCCTCGGCTGACTCATCCATCCTATCAGCAAGTCCATGTTTGCTCGGAATATCTACCAGCTTTCCTTCAGACAAAAA	160
Cavia	TGTCCTCGGCGGACTCATCTATCCTGTGGGCGAAGTCCATGTTTGCACGGAAATCTACCAGCTTTCCTTCAGACAAAAA	160
Homo	TGTCATCAGCAAGATTCTTCCATCTTGT CAGCAAGTCCATGTTTGCACGGAAATCTACCAGCTTTCCTTCAGACAAAAA	160

ENSMUSG00000023945 exon 8 (ORF 0)

Mus	GCATCAGACAAAGAAATTTGTGGGTTCATGAGGATCACTGTGCTTGTGTTTGGAGCATCTGCAACAGCCATGGCTTTTGC	80
Rattus	GCATCAGACAAAGAAATTTGTGGGTTCATGAGGATCACTGTGCTTGTGTTTGGAGCATCTGCAACAGCCATGGCTTTTGC	80
Cavia	GCATCAGACAAAGAAATTTGTGGGTTCATGAGGATCACTGTGCTTGTGTTTGGAGCATCTGCAACAGCCATGGCTTTTGC	80
Homo	GCTTCGGACAAAGAAATCGTTTGGGTTCATGAGGATCACTGTGCTTGTGTTTGGAGCATCTGCAACAGCCATGGCTTTGC	80
Mus	GACGAAGACTGTGTATGGGCTCTGTTACCTCAGCTCTGACCTTGTCTACATCATCATCTTCCACAGCTGCTCTGTGTAC	160
Rattus	GACGAAGACTGTGTATGGGCTCTGTTACCTCAGCTCTGACCTTGTCTACATCATCATCTTCCACAGCTGCTCTGTGTAC	160
Cavia	GACGAAGACTGTGTATGGGCTCTGTTACCTCAGCTCTGACCTTGTCTACATCATCATCTTCCACAGCTGCTCTGTGTAC	160
Homo	GACGAAGACTGTGTATGGGCTCTGTTACCTCAGCTCTGACCTTGTCTACATCATCATCTTCCACAGCTGCTCTGTGTAC	160

ENSMUSG00000023945_intron_7



ENSMUSG00000038567 intron 6

Description: 1,25-dihydroxyvitamin D (Cyp24a1)

Intron number: 6

Mouse chromosome: 2

Upstream exon length: 112

Downstream exon length: 146

Mouse intron length: 1327

Intron alignment length: 1903

Total murinae branch length: 0.19803

K_score: 0.08693

Scaling factor: 0.69847

ENSMUSG00000038567 exon 6 (ORF 0)

Mus	ATGATGAGCACAA	TTTGGGAAGATGATGGT	GACCCCCCGT	GAGGTTGCACAAGC	GGCCTCAACACCAAAGT	GTGGCAAGCGCA	80
Rattus	ATGATGAGCACG	TTTGGGAAGATGATGGT	GACCCCCCGT	GAGGTTGCACAAGC	GGCCTCAACACCAAAGT	GTGGCAAGCGCA	80
Cavia	ATGATGGGTA	CTTTGGGAAGATGATGGT	CACCCCGT	GAGGTTGCACAAGC	GGCCTCAACACCAAAGT	GTGGCAAGCGCA	80
Homo	ATGATGAGCACG	TTTGGGAAGATGATGGT	CACCCCGT	GAGGTTGCACAAGC	GGCCTCAACACCAAAGT	GTGGCAAGCGCA	80

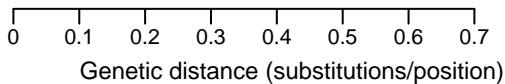
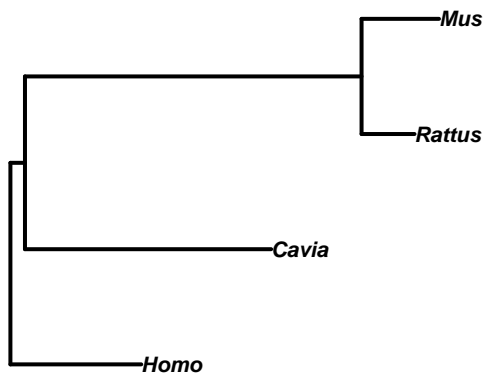
Mus	CACGCTGGCCTGGGA	CACCATTTTCAAATCAG	112
Rattus	TACGCTGGCTTGGGA	CACCATTTTCAAATCAG	112
Cavia	CACCCTGGCCTGGGA	CACCATTTTCAAATCAG	112
Homo	CACTCTGGCCTGGGA	CACCATTTTCAAATCAG	112

ENSMUSG00000038567 exon 7 (ORF 2)

Mus	TCAAAGCCCTGCATCGAC	CACCGCTAGAGA	GATATTG	CAGCAGCCTGGTGC	GATTTCCTTTGT	GATATTTATCA	GCAA	80	
Rattus	TCAAAGCCCTGCATCGAC	CACCGCTAGAGA	GATATTG	CAGCAGCCTGGTGC	GATTTCCTTTGT	GATATTTATCA	GCAA	80	
Cavia	TCAAAGTCTTGCTA	ATTAGAAATTTAGAGAAAT	ATTCT	CAGCAGCCTGGCAT	GATTTCCTTTGGA	GATATTTATCA	GCAAC	80	
Homo	TCAAAGCCTTGCTA	TCGACAAACCGG	TTAGAGAAAT	GATATTCT	CAGCAGCCTAGTGC	GATTTCCTTTGT	GATATTTATCA	GCAA	80

Mus	GATCATCTTTTCAAAGAAAGAACT	TGTACGCTGCTGTCA	CCGAGCTCCAGCTGGCTGCAGTGA	CACG	146
Rattus	GATCACCTTTTCAAAGAAAGAACT	TGTACGCTGCTGTCA	CCGAGCTCCAGCTGGCTGCAGTGA	CACG	146
Cavia	AATCAGCTTTTCAAAGAAAGAAAT	TGTACGCTGGCAT	CAAGGATCCAGCTGGTGGCAT	A	146
Homo	AATCGGCTTTTCAAAGAAAGAAAT	TGTATGCTGCTGTCA	AGAGCTCCAGCTGGCTGGCTGGAAACG		146

ENSMUSG00000038567_intron_6



ENSMUSG00000029545 intron 1

Description: Short-chain specific acyl-CoA dehydrogenase, mitochondrial P (Acads)
 Intron number: 1
 Mouse chromosome: 5
 Upstream exon length: 46
 Downstream exon length: 164
 Mouse intron length: 1496
 Intron alignment length: 1828
 Total murinae branch length: 0.24276
 K_score: 0.06899
 Scaling factor: 0.6996

ENSMUSG00000029545 exon 1 (ORF 0)

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Mus      -----ATGGCTGGCGGCCCTTGGCTCGCCCGGGGCCCGTGGCCCTCTCCCTAGAG 46
Rattus  ATGGCCATGGCCCGCTGGCGCTTGGCTCGCCCGGGGCCCGTGGCCCTCTCTCCCTAGAG 52
Cavia   CCGGCCATGGCCCGCTGGCGCTTGGCTCGCCCGGGGCCCGTGGCCCTCTCCCTAGAG 52
Homo    -----ATGGCCCGCGGCCCTTGGCTCGCCCGGGGCCCTCGGGCCCTGGCCCTAGAG 46
    
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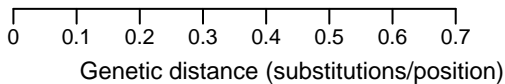
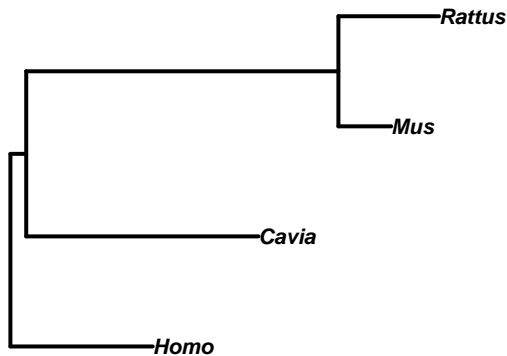
ENSMUSG00000029545 exon 2 (ORF 2)

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Mus      CTCTCGGTGTTCGGGACTGGCGAGCGCTTACACACTGTTTACCAGTCTGTGGAAGCTGCCTGAGACACACCAGATGTTGGCT 80
Rattus  CTCTCCGCGCTCGAGATTGGCGAGATTACACTACTGTTTACCAGTCTGTGGAAGCTGCCTGAGACACACCAGATGTTGGCT 80
Cavia   TTCTGCCGTCTCTGGGACTGGCGAGCGCTTACACACTGTTTACCAGTCTGTGGAAGCTGCCTGAGACACACCAGATGTTGGCT 80
Homo    CTCTCTTGTCTTATGGGCGCTGGCGAGCGCTTACACACTGTTTACCAGTCTGTGGAAGCTGCCTGAGACACACCAGATGTTGGCT 80

Mus      CAGACATGCCGTGACTTTGCCGAGAAAGGAGTTGGTCCCCATTGCGGCCAGCTGGACAGGGGAGCATCTCTTCCCACACAGC 160
Rattus  CAGACATGCCGGGACTTTGGTGAAGGAGCTGGTCCCCATCGCTGGCCAGCTGGACAAGGAACATCTCTTCCCACACATCC 160
Cavia   CAGACCTGTTCGGGACTTTGGTGAAGGAGCTGGTCCCCATCGCGGGCTCAAGCTGGACAGGGGAGCATCTCTTCCCAGG 160
Homo    CAGACATGCCGGGACTTTGCCGAGAAAGGAGTTGTTTCCCCATTGCAAGCCCAAGCTGGATTAAGGAACATCTCTTCCCAG 160
    
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ENSMUSG00000029545_intron_1



Mus GTAGGCAGTCCCGGCTGCCA...CATCCACAGGTCACACAGGCTCCCATGGG... 61
Rattus GTAGGCAGTCCCGGCTGCCA...CATCCACAGGTCACACAGGCTCCCATGGG... 65
Cavia GTAGGCAGTCCCGGCTGCCA...CATCCACAGGTCACACAGGCTCCCATGGG... 45
Homo GTAGTGTCCAGCTCTGCAGGAGAGCTGCCTCAGCTGCCACATGGCCCTCTTCTGTGCTAGGCTGCCACCAAGCAATGGCAGCACCCCTCACCCTGCTTC 109

Mus ACACAGGGCCAGCCACACAGCAATGTCTGCTGCTGAGAGAGCTGTCA...GGAACCTCTCTCAGCCATGCCGTCCA 138
Rattus ACACAAGGGAGGCACAGAGCTGCATGTCTGCTGCTGGAAGAAGTGTCA...GGAAGCTTTCTCAGGTTCACTCTG 139
Cavia TGGAGAAAGGGCAGTGGGACAGACTCAGGCCACCCCAACCAAGGATTTGGCTGCTGACAGAACTCCAACCCAGATGGCTGGTGGGCTCTCTGAGAGGCCACCTCCCA 219
Homo

Mus GCTCTCCCCG...TTTCTGTTCTGCCGCCACAGACATTCCTGCTAACAAAGATAAA...ATTCTGCCAGAAATGTA 215
Rattus AAGACTCTTCTGCAGGAAACC...GAACTGTTCTGCCGCCAGAGACCTCTCTGCTAACAAAGATAAA...GTTCTGCCAGAAATAG 228
Cavia GGGAAAGCCCTCTCTCTCCCGGCTTTCTCAGGCTGCCACAGCTGCCAGAGGCCACTAGCTAGAGCTGGACAGGGGTCTGTTCTATCTTAAACATG 329
Homo

Mus ACTCTTTTGTGGTAGCTTCTTAGGGGCTCCCTAAAAGSACTCTTCTGAGCTGTGGAACTGGAGCCACAATCTCCG...AAGTCAGCTCTCTTGGGG... 316
Rattus ACTCTTTTGTGGTAGCTTCTTAGGGGCTCCCTAAAAGSACTCTTCTGAGCTGTGGAACTGGAGCTGTAATCA...CCCAAGTCAGCTCTCTTGGGG... 332
Cavia CTTCTTTTCTTCTTAAATTTCTAGAGGGTCCCTAAAAGSACTCTTCTGAGCTGTGGAACTGGAGCTGTAATCA...CCCAAGTCAGCTCTCTTGGGG... 178
Homo CTTCTTTTCTTCTTAAATTTCTAGAGGGTCCCTAAAAGSACTCTTCTGAGCTGTGGAACTGGAGCTGTAATCA...CCCAAGTCAGCTCTCTTGGGG... 329

Mus CTTCTTTTCTTCTTAAATTTCTAGAGGGTCCCTAAAAGSACTCTTCTGAGCTGTGGAACTGGAGCTGTAATCA...CCCAAGTCAGCTCTCTTGGGG... 316
Rattus CTTCTTTTCTTCTTAAATTTCTAGAGGGTCCCTAAAAGSACTCTTCTGAGCTGTGGAACTGGAGCTGTAATCA...CCCAAGTCAGCTCTCTTGGGG... 332
Cavia CTTCTTTTCTTCTTAAATTTCTAGAGGGTCCCTAAAAGSACTCTTCTGAGCTGTGGAACTGGAGCTGTAATCA...CCCAAGTCAGCTCTCTTGGGG... 178
Homo CTTCTTTTCTTCTTAAATTTCTAGAGGGTCCCTAAAAGSACTCTTCTGAGCTGTGGAACTGGAGCTGTAATCA...CCCAAGTCAGCTCTCTTGGGG... 329

Mus GAAGGTCCTTTCACACAGGTCGCCCAAAAACCTGCAGGCTAACAGTATCAGACATGAAGGACCAAGTATGAA...GGCCTTGCCTCTCTCT...CCCCAG 472
Rattus GAAGGTCCTTTCACACAGGTCGCCCAAAAACCTGCAGGCTAACAGTATCAGACATGAAGGACCAAGTATGAA...GGCCTTGCCTCTCTCT...CCCCAG 482
Cavia ATTTGAAAGGGCCACAGAGAAAGCCCTATAAAACCTCCAGGTTAACAGGATCCAGACACTTAAGTGTCTCGTACTAATGAGCAGCCCTGTTTGGCTCTGTTTCCAG 353
Homo GTTTGGCATGGCAAT...GCCAATGAAGCTTTTGGTTAACAAATCCAGAGAGTAACTGATGGGGCAATGGCTCTCTTTTCCAG 647

ENSMUSG00000033105 intron 16

Description: Lanosterol synthase (Lss)
 Intron number: 16
 Mouse chromosome: 10
 Upstream exon length: 97
 Downstream exon length: 106
 Mouse intron length: 575
 Intron alignment length: 745
 Total murinae branch length: 0.14774
 K_score: 0.08418
 Scaling factor: 0.70173

ENSMUSG00000033105 exon 16 (ORF 0)

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Mus      TTACTGAGCCTTGAGGAATGCTGATGGCGGGTTTGGCTACCTATGAGAAAGAGCCTGGGGTTACTTTGCTGGAGCTGCTGAA 80
Rattus  TTGTTGAGCATGAGGAATTCGGATGGAGGGTTTGGCTACCTATGAGAACTAAGCCTGGGGTTACTTTGCTGGAGCTGCTGAA 80
Cavia   TTACTGAGCATGAGGAATCCTGATGGAGGGTTTGGCTACCTATGAGAACTAAGCCTGGGGTTACTTTGCTGGAGCTGCTGAA 80
Homo    CTGCTGAACATGAGAAATCCAGATGGAGGGTTTGGCTACCTATGAGAACTAAGCCTGGGGTTACTTTGCTGGAGCTGCTGAA 80

Mus      CCCCTCAGAGGTCTTTG 97
Rattus  CCCCTCAGAGGTCTTTG 97
Cavia   TCCCTCGAGGTCTTTG 97
Homo    CCCCTCGAGGTCTTCG 97
    
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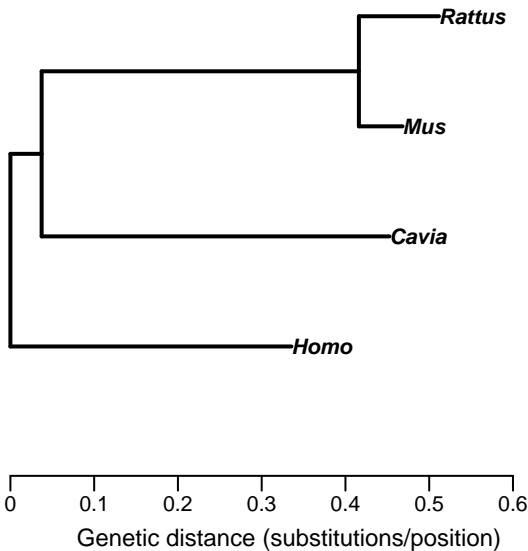
ENSMUSG00000033105 exon 17 (ORF 2)

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Mus      GAGACATCATGATTGACTACACGATGTAGAGTGTACCTCCGCTGGTGTGATGCAGGCCACTGAAGCATTTCATGAACTCTC 80
Rattus  GAGACATCATGATTGACTACACGATGTAGAGTGTACCTCCGCTGGTGTGATGCAGGCCACTGAAGCATTTCATGAACTCTC 80
Cavia   GAGACATCATGATTGACTACACGATGTAGAGTGTACCTCCGCTGGTGTGATGCAGGCCACTGAAGTCTTTCCACAAAGAACTC 80
Homo    GGGACATCATGATTGACTACACGATGTAGAGTGTACCTCAGCAGTGTGATGCAGGCCCTTAAAGTATTTCACAAAGGCTTC 80

Mus      CCAGACTACAGGGCAGCAGAGGTCAG 106
Rattus  CCAGACCACAGGGCTACAGAGATCAG 106
Cavia   CCAGACCACAGGGCGGCAGAGATCAA 106
Homo    CCGGAGGCACAGGGCAGCGGAGATCCG 106
    
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ENSMUSG00000033105_intron_16



ENSMUSG00000044056 intron 2

Description: EF-hand calcium-binding domain-containing protein 9 (Efcab9)

Intron number: 2

Mouse chromosome: 11

Upstream exon length: 149

Downstream exon length: 177

Mouse intron length: 689

Intron alignment length: 1106

Total murinae branch length: 0.22557

K_score: 0.05093

Scaling factor: 0.70324

ENSMUSG00000044056 exon 2 (ORF 2)

Mus	ATGTGCTCTTCTTTTCATTTTCCTCCAGCACGTTGACTAACCTGAACAAGTCCACAGATCGGGATGATATTTGACCTCCTGGAAC	30
Rattus	ATGTGCTTCTTCTTTTCATTTTCCTCCAGCACGTTGACTAACCTGAACAAGTCCACAGATCAAGATGATATTTGACCTCCTGGAAC	30
Cavia	ATGTGCTCTTCTTCTATCACTTCCTCCAGTTACGTTGACTAACCTGAACAAGTCCACAGATCAAGATGCTTCTTTGACATGTTGGAAC	30
Homo	ATGTGCTGTTCTATCACTTCCTTTCATCATTTGACTGACTTTGAAAAAGGCACAGATCAACATTTGTTTGGACATGCTGGAAC	30

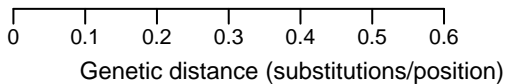
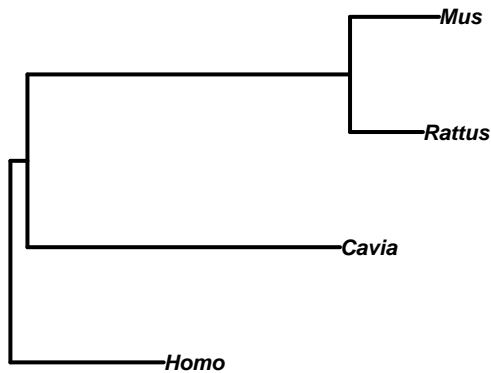
Mus	TGGACAGCTGTAGGAGAGATTTGGTTTTGACCAGTTCTATTGTTGATTTGCATACTGCTGGCACATCAG	149
Rattus	TGGACGGCTGTAGGAGAGATTTGGTTTTGACCAGTTCTACCTGTTGGTTTGCATACTGCTGGCACATCAG	149
Cavia	TGGCAATGCTGTGGGTGAATTTGGCTTCGAGGAATTTCTACTTGTGGTCTGCATCCTGCTTTCACATCAG	149
Homo	TGGAACGCTGTGGGCAGATTCGACTTTGAGAAGTCTACATGCTGGTGTGCATGCTGCTGGGCACCCAG	149

ENSMUSG00000044056 exon 3 (ORF 0)

Mus	GACCATCTGGAAGACCACTTTATGTACCGCCATTCCCGGCCAGTCTTTTGAAGCTGCTTGATCTGGACGGGGAGATGAATAT	30
Rattus	AACCATCTGGAAGATCACTTTATGTACCGCCATTCCCGGCCAGTCTTTTGAAGCTGCTTGATTTGGACGGGGAGTTGAATAT	30
Cavia	AATCATTTTGGAAAGAACATTTATGTACTTGCATTCCCGGCCAGTCTTTTGAAGCTGCTTGACTTAAACGGAGAGCAAGAAAT	30
Homo	AACCATTTTGGAAAGCAGAGTTTATGTATTCGTCATTCCCGGCCCTGTCTTTTGAAGCTGCTTGACTTGAATGAGGGGATCTGAAGAAAT	30

Mus	AGGTGGGGCCAAATTTCCAAAACCTACAGATTTTCTCTTCAATATTTAAAAAGCAGGAACCTCCGACACCTTTTCCATGACTTTG	160
Rattus	AGGTGTGACCAATTTCCAAAACCTACAGATTTTCTCTTCAATATTTAAAAAGCAGGAACCTCCGACACCTTTTCCATGATTTTG	160
Cavia	TGGTAAGTCAACCTTCCACTTGTACAGATTTTCTCTTCAATATTTAAAAAGCAGGAACTCCGAACTCAAAGATTTCTTTCCAGATTTTG	160
Homo	TGGTGCAAAATAAAGCTTTCGAAATGTACAGATTTTCTCTTCAATATTTAAAAAGCAGGAACCTCAAAGATTTCTTTCCGTTGACTTTG	160

ENSMUSG00000044056_intron_2



ENSMUSG00000038095 intron 9

Description: Protein strawberry notch homolog 1 (Sbno1)

Intron number: 9

Mouse chromosome: 5

Upstream exon length: 162

Downstream exon length: 136

Mouse intron length: 785

Intron alignment length: 2004

Total murinae branch length: 0.20731

K_score: 0.02838

Scaling factor: 0.7067

ENSMUSG00000038095 exon 9 (ORF 0)

Mus	TAAATATGCTAAAGATTTCTTCCAAACACAATGGGAGTGTGAAAAAAGGTGTTATTTTTGCTACCTATTCTTCCCTTATTG	80
Rattus	TAAATATGGAAAAGATTTCTTCTTAAACACAATGGGAGTGTGAAAAAAGGTGTTATTTTTGCTACCTATTCTTCCCTTATTG	80
Cavia	TAAATATGGAAAAGATTTCTTCCAAACATAAGGGGAGTGTGAAAAAAGGTGTTATTTTTGCTACCTATTCTTCTTCTTATTG	80
Homo	TAAATATGGAAAAGATTTCTTCCAAACATAAGGGGAGTGTGAAAAAAGGTGTTATTTTTGCTACCTATTCTTCTTCTTATTG	80

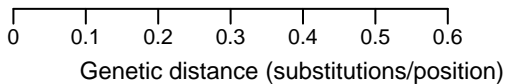
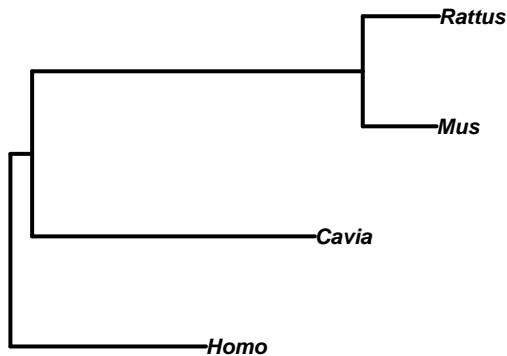
Mus	GTGAAAGCCAGTCTGGTAAATATAAGACCAGGTTAAAACAGCTTCTACACTGGTGTGGTGACGACTTCGATGGAGTG	160
Rattus	GTGAAAGCCAGTCTGGTAAATATAAGACCAGGTTAAAACAGCTTCTGCACTGGTGTGGTGACGACTTCGATGGAGTG	160
Cavia	GGGAAAGCCAGTCTGGTGGCAAAATATAAACTGGTGGAAAACAATTCTGCATTGGTGGGTGACGACTTCGATGGAGTG	160
Homo	GTGAAAGCCAGTCTGGTGGCAAAATATAAACTAGGTTAAAACAATTCTGCATTGGTGGGTGATTGACTTCGATGGAGTG	160

ENSMUSG00000038095 exon 10 (ORF 0)

Mus	ATAGTGTTTGATGAATGTCAAAAAGCAAAAAAAGCTTATGTCCTGTTGGTTCTTCAAAGCCAAACCAAGACAGGCTTGGCTGT	80
Rattus	ATAGTGTTTGATGAATGTCAAAAAGCAAAAAAAGCTTATGTCCTGTTGGTTCTTCAAAGCCAAACCAAGACAGGCTTGGCTGT	80
Cavia	ATAGTGTTTGATGAGTGTCAAAAAGCAAAAAAAGCTTATGTCCTGTTGGTTCTTCAAAGCCAAACCAAGACAGGCTTAGCAGT	80
Homo	ATAGTGTTTGATGAGTGTCAAAAAGCAAAAAAAGCTTATGTCCTGTTGGTTCTTCAAAGCCAAACCAAGACAGGCTTAGCAGT	80

Mus	TTTAGAGCTTCAAAACAAATTGCCAAAAGCCAGAGTCTTTATGCCAGTGCCACTG	136
Rattus	TTTAGAGCTTCAAAACAAATTGCCAAAAGCCAGAGTCTTTATGCCAGTGCCACTG	136
Cavia	TTTAGAGCTTCAAAACAAATTGCCAAAAGCCAGAGTCTTTATGCCAGTGCCACTG	136
Homo	TTTAGAGCTTCAAAACAAATTGCCAAAAGCCAGAGTCTTTATGCCAGTGCCACTG	136

ENSMUSG00000038095_intron_9



Mus Rattus Cavia Homo
G T A T C C T T C A G T A G A A A C T G T T A G A G T T T A A T G A C A T G A A A A G T T A G A T C T A G T T A G A C C T T T A G A A A A A T A G A T T G A G T G G G T T T T T T G 96
G T A T C C T T C A G T A G A A A C T G T T G A G T T G A A T G C A T G A A A A G T T A T A T G T A G A T A G A C C T T T A G A A A A A T G A G A A T G A G T T T T T T G 88
G T A T C C T T T A T G C A A A T G T G A T T C T A T T T T T T A A T G C A T A A A A G T A T A A T A A A A G A G A C T T T G C A A A A G G A G A G C C C T A G G A T T A G A T G A T A G A T T G T T G 104
G T A T C C T T T A T G C A A A T A T T T T T C T A T T T T T T A A G C A G A A G A A A A T T A T A A A G G G T A G A C C T T T G C A A A A G G A A G T T A G A T T A A A G A G T T G T G 101

Mus Rattus Cavia Homo
G G G G G G G T C A G T T T A A T A G T T T A G A T C C C A G G A T T T C A G G A A A C T G G A A A A T A A T T G T C A G A 134
T G G T C A T C A G T T T A A T A G T T T A G A T C C C A G G A T T T C T G T C C A G G A A A C T G G A A A T C A T T C A G C A T C A G A A G T C T G T T T A A G C T T A G T T A C C A C G T C T T T A T C 156
G C A T G G C A G T T T T A A T T A T T A G A T T C C C A G C G C T G G A A A G T T G A T C A G T T T G T C A G A G A A A T A A C T G A T T 177
G A T G A A A A C T T T A A T G A T T A C G T A G A G T C C A A A G G G A T T G G A A A G T T G A T T C G G T T T T T A C C T G T C A G A T A G G A G A C C A A T G T T T A A T C T C T G C T T 200

Mus Rattus Cavia Homo
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T A G A A A A T G T T A A T A G A T A T A G A G A A T A T G A T A T G T A T T C C C C T T T T A G A G A T T A A C 225
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Mus Rattus Cavia Homo
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. T G G C T G T T C A T G A T G G G T G A A G C C T T G A C T A T G C A T A T T T A C A T A C C A G A A T A C C G G A G A A 259
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Mus Rattus Cavia Homo
G A C T G A G G A A G C A C T A T T C A C T T T G C T T C C T C T T A T T T G C T T A C A G T A T A G C T G C T G C T G C C G A G A A T C C C A T A T T C T T T T T T T T T T T T T T A A G A T T A 317
G A G C A A G G A A G C A C C T T C A C T T A G T G C T T C C C A C T C A C T T G C T T A C A G T A T A G C T T C G C T G C C G A G A A T G 357
A C C A A G T G A A A G G A A C A T T G T G A T T T A A A A T G T A T T G T G A C A G T T A T A C A 313
G A C T A A G T G A A A G A A A C T G T T A G A A C T T A G T G C T C C A A A C T T G T T C A C A G T A T A C T T 353

Mus Rattus Cavia Homo
T T T A T T T A T A T A T G T A A G T A C A C T G T A G C T G T C T T C A G A C A C C A G A A G A G G G A G T C A G A T C T C G T T A C A G A T G G T T G T G A G C C A C C A T G T G G T T G C T G G G A T T T G A A C T 427
. 432
. 313
. 353

Mus Rattus Cavia Homo
C C G G A C C T T T G G A A G A G C A G T T G G G T G C T T T A A C C A C T T A G C C A T C T C G C A C C G A A T C C A T A T T C T G A A G T G C T G T T T A C C T T A G T T G C C A G T T G T T T A T G 533
. T A G T A T C C T G T G C G A A C C A C A C A T C A C A T G T T G A A A T G C T G G G T A A T T G G T G C C T G T A C A G T G T A C 384
. T T A A C T G T C C T G C A T G A G G A A C A T C A C T T T T G A A A T G C T G A T T A A G T T G T T A C C A T T C A T A G C T T C T 421

Mus Rattus Cavia Homo
. A T T C C T G A A A T C C C C G T A G A G C A T A G T C T T G C T C T G T G G A C C T T T C C T A A A T T T G T T A A G A A A G A A A T T T T G C T G A A G T G A A T G 624
. G T C C C T G A A A T T C C C C T G T A G A C A T A G T C T T G C C T C A G T G G A T C T T T C C T G C A T C T T T A A G A A A G A A A G T T C C G A G C T G A A G T G A A T A 570
T G G T A T A C A G A T T C A T T T T T C A G C A T A A T C T G T G T G A C C G C T C T T G C T A T A G A A A A C C C A T T G C T G C A T C C T A G T T G S A A A T T A A A T G C C T G C T A A G C T A A A T A 494
. A C T T T T A C A A G T T A C C A G A T A A C A C T C T T G C T C A G A G G T T C C T T T T C T C T T T A A T T A G A G C A A A T G C T G G T T A A A T T 508

Mus Rattus Cavia Homo
C C A C C T T G A G G A A T G T C T C A G A A T T T C A G T T T A A G G G A A A G G A A G A G A G A C A A G G G A G A G A T G C T T C A T C T A T G T A T G G A A T C T T A A G A C C C T T G T A 724
C C A G A T T G A C T G A A T G C C T G A G A A T T T G A G T A T A G G G A A A G G A T T A G A G A C A G S T A G A G A G G C T T C A T T A T G A T G G A A T C T T A A G A G C T C T G T A 669
C G T A C A G T T A C T G G G C C T G A A A G G G G G G G G A G A G G G T T G C T G T G G A G A G A C C T G G A T G G C T G T G A T C C G G T A A A G A A G A G G C C C T T T G 589
C C A A A T T C A G T G A A T G C T T T G A G G C T A G A C A G G A G G A G C A T G T A A C T G G G A A A G G G C C A T A G G A C T T C C T T T G T A T T T C A G T C A T G A A A T A G C C A A T C A G A 613

Mus Rattus Cavia Homo
G T T G C T A T T C T A T A A A T C A C A C T C T G C C C T G T G A T A T G T T C C T T A G C T C T T C C T T C A G 785
G A C T C T G T T C A A A A A C C A C A G C C C T G A A T A G A T A G C T T C T G C C C T G T C T A T A T T C C T A G C T C G T C C T T A C A G 748
A A T C T T G G G G A G T A A A T G T T A A C T C T T C T A A A G A A C T A T A G A T G T T A G G A A T G T A G C A T A T T C C T T A A C T A C T C C T T A C A G 686
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ENSMUSG00000027217 intron 6

Description: Tetraspanin-18 (Tspan18)

Intron number: 6

Mouse chromosome: 2

Upstream exon length: 84

Downstream exon length: 48

Mouse intron length: 1277

Intron alignment length: 2508

Total murinae branch length: 0.19833

K_score: 0.06426

Scaling factor: 0.70827

ENSMUSG00000027217 exon 6 (ORF 0)

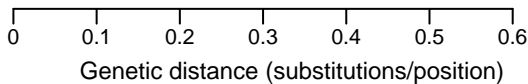
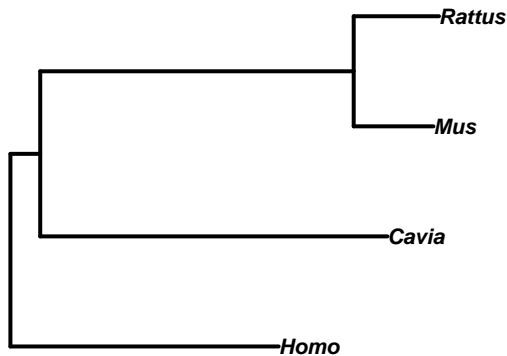
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Rattus	GGCTGTTACACTGGTATCCTCAACACCTTCGAAACCTATGTCTACCTGGCCGGAGCCCTTTGCCATTGGGGTGGCTGGGCTAT	80
Cavia	GGCTGTTACACGGTGGTATCCTCAACACCTTCGAAACCTATGTCTACCTGGCCGGAGCCCTTTGCCATTGGGGTGGCTGGGCTAT	80
Homo	GGCTGTTACACGGTGGTATCCTCAACACCTTCGAAACCTATGTCTACCTGGCCGGAGCCCTTTGCCATTGGGGTGGCTGGGCTAT	80

Mus	TGAG	84
Rattus	TGAG	84
Cavia	CGAG	84
Homo	CGAG	84

ENSMUSG00000027217 exon 7 (ORF 0)

Mus	CTCTTCCTCATGGTCTTTGCCATGTGCCTCTTCCGGGGCATCCAGTAG	48
Rattus	CTCTTCCTCATGGTCTTTGCCATGTGCCTCTTCCGGGGCATCCAGTAG	48
Cavia	CTTTTGTTCATGATCTTGGCCATGTGCCTCTTCCGGGGCATCCAGTAG	48
Homo	CTTTTTCGCATGATCTTTGCCATGTGCCTCTTCCGGGGCATCCAGTAG	48

ENSMUSG00000027217_intron_6



ENSMUSG00000028356 intron 1

Description: Protein AMBP Precursor (Ambp)

Intron number: 1

Mouse chromosome: 4

Upstream exon length: 114

Downstream exon length: 143

Mouse intron length: 1215

Intron alignment length: 1801

Total murinae branch length: 0.14975

K_score: 0.07321

Scaling factor: 0.71127

ENSMUSG00000028356 exon 1 (ORF 0)

Mus	ATGCAGGGTCTCAGGAAACCCCTGTTCTCTGCTGCTGACTGCCTGCCTGCCTTCGAGGGCTGACCCCTGGTCAACACTGCCAG	79
Rattus	ATGCAGGGTCTCAGGAGCCCTGTTCTTTGTTGCTGACTGCCTGCCTGCCTTCGAGGGCTGACCAATGTGCCAACACTGCCAG	79
Cavia	ATGTGGGGCGCTCAGGCCCTGCTGTTGCTGCTGGCACTGCCTGCCTGCCTTCGAGGGCTGACCAATGTGCTGACGCTGCCAG	80
Homo	ATGAGGAGCTCTCGGGGCCCTGCTCTTGTGCTGAGGCTGCCTGCCTGCCTGGGGTGAAGGCTCGCCCTGTGCCAACGCCGCCGA	80

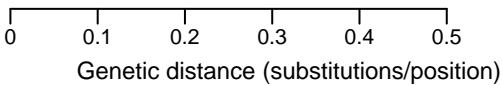
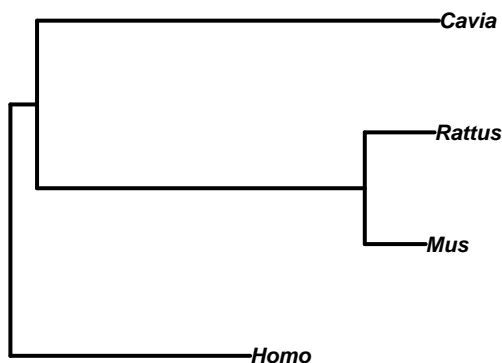
Mus	--ATATCCAGGTTCAAGGAGAACTTCAAGTGAAGTCCCGG	114
Rattus	--ATATCCAGGTTCAAGGAGAACTTCAATGAGGCCCGG	114
Cavia	CGACATCCAAGTCAAGGAGAACTTTCAGCAGTCCCGG	117
Homo	CAACATCCAAGTCAAGGAGAACTTCAATATCTCTCGG	117

ENSMUSG00000028356 exon 2 (ORF 0)

Mus	ATCTATGGAAATGGTACAACCTGGCGGTGGGATCCACCTGCCCGTGGCTGAGCCGCAATTAAGGACAAGATGAGCGTGA	80
Rattus	ATCTATGGAAATGGTACAACCTGGCGGTGGGATCCACCTGCCCGTGGCTGAGCCGCAATTAAGGACAAGATGAGCGTGA	80
Cavia	ATGTATGGGAAAGTGGTACAGCCTGGCTATCGGCTCCACCTGTTCCCTGGCTGAAGAGGATCAAGGACAGGCTGAGCGTGA	80
Homo	ATCTATGGGAAAGTGGTACAACCTGGCAATCGGTTCCACCTGCCCGTGGCTGAAGAGGATCAATGGACAAGATGACAGTGA	80

Mus	CACGCTGGTGTGCAGGAGGGGGCCACAGAAACAGAGATCAGCATGACCAGTACTCGATGGG	143
Rattus	CACGCTGGTGTGCAGGAGGGGGCCACAGAAACAGAGATCAGCATGACCAGTACTCAATGGG	143
Cavia	CACCATGGTGTGCGGCAAGGGGGCCACAGAGGCGAGATCAGCATGACCAGTACTCAATGGG	143
Homo	CACGCTGGTGTGCGGCAAGGGGGCTACAGAGGCGGAGATCAGCATGACCAGTACTCGTGGG	143

ENSMUSG00000028356_intron_1



Mus 108
Rattus 101
Cavia 82
Homo 88

Mus 211
Rattus 204
Cavia 177
Homo 172

Mus 290
Rattus 286
Cavia 273
Homo 279

Mus 290
Rattus 383
Cavia 379
Homo 379

Mus 339
Rattus 6335
Cavia 421
Homo 489

Mus 444
Rattus 439
Cavia 531
Homo 595

Mus 545
Rattus 530
Cavia 589
Homo 616

Mus 655
Rattus 554
Cavia 614
Homo 640

Mus 751
Rattus 649
Cavia 707
Homo 746

Mus 805
Rattus 703
Cavia 788
Homo 856

Mus 867
Rattus 784
Cavia 855
Homo 968

Mus 985
Rattus 891
Cavia 955
Homo 1056

Mus 1096
Rattus 985
Cavia 1048
Homo 1151

Mus 1113
Rattus 1002
Cavia 1158
Homo 1208

Mus 1113
Rattus 1002
Cavia 1268
Homo 1208

Mus 1183
Rattus 1072
Cavia 1348
Homo 1311

Mus 1215
Rattus 1109
Cavia 1389
Homo 1352

ENSMUSG00000003235 intron 14

Description: Translation initiation factor eIF-2B subunit epsilon (Eif2b5)

Intron number: 14

Mouse chromosome: 16

Upstream exon length: 126

Downstream exon length: 111

Mouse intron length: 555

Intron alignment length: 622

Total murinae branch length: 0.20942

K_score: 0.08515

Scaling factor: 0.7128

ENSMUSG00000003235 exon 14 (ORF 0)

Mus	CTGCTCAAAGCCTGGAGCCCTGTTTTAAAGGAACTACATAAAAGCGTGCAGCTGACCACTTGGAAGCATTGGCAGCCATTGA	80
Rattus	CTGCTCAAAGCCTGGAGCCCTGTTTTTCGGAACTACATAAAAGCGTGCAGCTGACCACTTGGAAGCATTGGCAGCCATTGA	80
Cavia	CTGCTCAAAGCCTGGAGCCCTGTTTTTAGGAACTATGTAAAGCGTGCAGCTGACCACTTGGAAGCATTGGCAGCCATTGA	80
Homo	CTGCTCAAAGCCTGGAGCCCTGTTTTTAGGAACTACATAAAAGCGTGCAGCTGACCACTTGGAAGCATTGGCAGCCATTGA	80

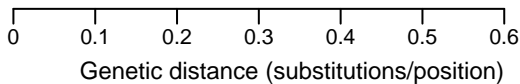
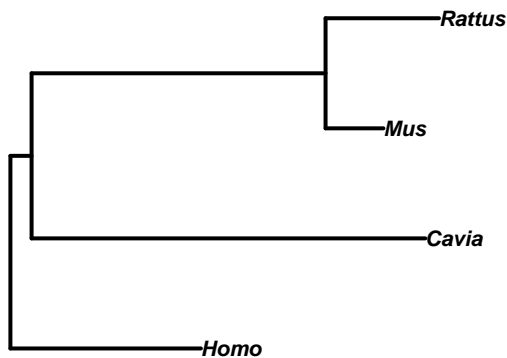
Mus	GGACTTCTTCTTGGAAACATGAAACTCTCGTTACTTCCATGGCCAAG	126
Rattus	GGACTTCTTCTTGGAAACATGAAACTCTTGTTCCTTCCTGGCCAAG	126
Cavia	AGACTTCTTCTTGGAGCATGAAAGCGCTCGGAACCTCCATGGCCAAG	126
Homo	GGACTTCTTCTTGAAGCATGAAAGCTCTTGGTATTTCCATGGCCAAG	126

ENSMUSG00000003235 exon 15 (ORF 0)

Mus	GTCCTGATGGCTTCTACCAAGCTGGAGATCTTGGCTGAGGAAACAATCTTGAGCTGGTTCAGCCAAAGAGACACAACTGA	80
Rattus	GTCCTGATGGCTTCTACCAAGCTGGAGATCTTGGCTGAGGAAACAATCTTGAGCTGGTTCAGCCAAAGAGACATAACTGA	80
Cavia	GTGCTGATGGCTTCTACCAAGCTGGAGATCTGGCTGAGGAAACAATCTTGAGCTGGTTCAGCCAAAGAGACATAACTGA	80
Homo	GTACTGATGGCTTCTACCAAGCTGGAGATCTGGCTGAGGAAACAATCTTGAGCTGGTTCAGCCAAAGAGATTAACACTGA	80

Mus	CGAAGGCCAGCAGTTACGCAAGAATCAACAG	111
Rattus	CAAAGGCCAGCAGTTACGTAAGAATCAACAG	111
Cavia	CAGAGGCCAGCAGCTCCCAAGAATCAACAG	111
Homo	CAAAGGCCAGCAGTTCCGCAAGAATCAACAG	111

ENSMUSG00000003235_intron_14



ENSMUSG00000036244 intron 8

Description: TBC1 domain family, member 21 (Tbc1d21)

Intron number: 8

Mouse chromosome: 9

Upstream exon length: 101

Downstream exon length: 117

Mouse intron length: 727

Intron alignment length: 1059

Total murinae branch length: 0.15875

K_score: 0.07153

Scaling factor: 0.71304

ENSMUSG00000036244 exon 8 (ORF 2)

Mus	AAGGGAAGGGCTCAGGGGCTGTGCAGTCCCTCTTCCGCTGGTTCTGCCTTTGCTTCCAGGCTGCCTTCAAACCTTCGAT	80
Rattus	AAGGAAGGGCTCAGGAGCTGTGCAGTCCCTCTTCCGATGGTTCTGCCTTTGCTTCCAGGCTGCCTTCAAATCCTTCGAT	80
Cavia	AAGGGAAGGGCTCAGGGGCTGTGCAGTCCCTCTTCCGCTGGTTCTGCCTTTGCTTCCAGGCTGCCTTCAAACCTTCGAT	80
Homo	AAGGGAAGGGCTCAGGGGCTGTGCAGTCCCTCTTCCGCTGGTTCTGCCTTTGCTTCCAGGCTGCCTTCAAATCCTTCGAT	80

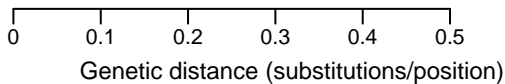
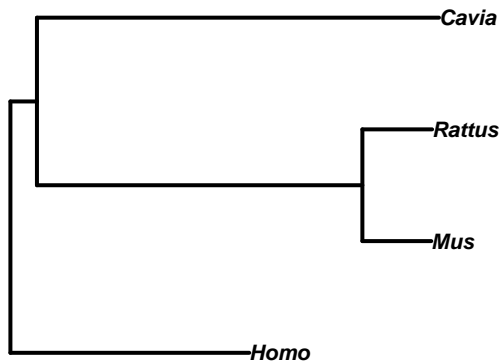
Mus	GATGTCTGGAGGCTCTGGAG	101
Rattus	GATGTCTGGAGGCTCTGGAG	101
Cavia	GATGTCTGGAGGCTCTGGAG	101
Homo	GATGTCTGGAGGCTCTGGAG	101

ENSMUSG00000036244 exon 9 (ORF 0)

Mus	GTCCTGCTGACGGGGAAGCCCTGCAGAAACTTCCAGGTGCTGGTGGCCTACAGCATGCTACAGATGGTGCGCAGAGCAGGC	80
Rattus	GTCCTGCTGACAGGGGAAGCCCTGCAGGAACCTTCCAGGTGCTGGTGGCCTACAGCATGCTACAGATGGTGCGGGAGCAGGC	80
Cavia	GTCCTGCTGACGGGGAAGCCCTGCAGGAACCTTCCAGGTGCTGGTGGCCTACAGCATGCTACAGATGGTGCAGAGCAGGC	80
Homo	GTTCTGCTGACGGGGAAGCCCTGCAGGAACCTTCCAGGTGCTGGTGGCCTACAGCATGCTACAGATGGTGCGGGAGCAGGC	80

Mus	GCTTCTGGAGTGTATGAGCGGTGACGCCATTCTCATG	117
Rattus	GCTGCTGGAGTGTATGAGCGGTGACGCCATTCTCATG	117
Cavia	ACTGCTGGAGAGCATGAGTATGATGCCATTCTCTG	117
Homo	GCTGCAAGGAAGCATGAGCGGGGATGACATCTCTG	117

ENSMUSG00000036244_intron_8



ENSMUSG00000034617 intron 5

Description: 5-methyltetrahydrofolate-homocysteine methyltransferase redu (Mtrr)
 Intron number: 5
 Mouse chromosome: 13
 Upstream exon length: 123
 Downstream exon length: 154
 Mouse intron length: 1354
 Intron alignment length: 2767
 Total murinae branch length: 0.20088
 K_score: 0.07083
 Scaling factor: 0.71361

ENSMUSG00000034617 exon 5 (ORF 0)

Mus	GAGGAAAACCAAGCATCTGTGCCTTCA--GGGGATCCAACTTTTCAAGTTCCAAATTTCAAAGGCAATTCGGCTGACTAC	77
Rattus	GATTGAAAACCAAGCATCTGTGCCACCATTCACCTCGATCCAAATTTTCAAGTTCCAAATTTCAAAGGCTTGTTCAGCTGACTAC	80
Cavia	GAGCAAGGTCAGCATCTGTGACTTTCA--GGGGATCCAACTTTTCAAGTTCCAAATTTCAAAGGCGTTTCAGCTTACTG	80
Homo	GAGGAAAAGCCAAGTATCTGTGACTTTCA--GCAAGATCCAACTTTTCAAGTTCCAAATTTCAAAGGCAAGTTCAACTTACTAC	77

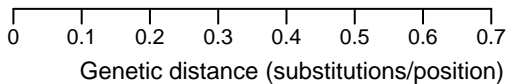
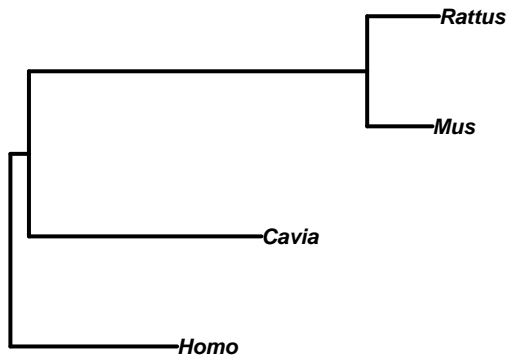
Mus	AAATGATGCCGTAAAGAGCACTCTGCTGTTGGAAGTGGACATTTCA	123
Rattus	AAATGATGCCATAAAGAGCACTCTGCTGTTGGAATGGACATTTCA	126
Cavia	GAGCGATGCCATCAAACCACTCTGCTGTTGGAAGTGGACATTTCT	126
Homo	GAATGATGCCATAAAAACCACTCTGCTGTTAGAATGGACATTTCA	123

ENSMUSG00000034617 exon 6 (ORF 0)

Mus	AAAATAGAGTTTTCCGATCAACCTGGAGACTCCTTCAATGTGACCTGTCCAAACAGTGATCGTGAGGTAGAAGAAGCTGCT	80
Rattus	AAAGTAGAGTTTTCCGATCAACCTGGAGATTCCCTTCAATGTGATCTGTCCAAACAGTGTCTGAGGTAGAAGAAGCTGCT	80
Cavia	AAAACAGATTTCCTCCATCAGCCGGCGATGCCTTCAATGTGATCTGTCCAAACAGGATCTAGAGGTGCAAGCCCTACT	80
Homo	AATACAGACTTTTCCATCAGCCCTGGAGATGCCTTCAAGCGTGATCTGCCTAACAGTGATCTGAGGTACAAAGCCTACT	80

Mus	CCAAAGGCTGCAGCTGGCTGATAAACGAGCTCACCCCTCTCATCTTGAAAATTAAAGCGGACACTAAGAAGAAAAG	154
Rattus	GCAAAGGCTGCAGCTGGCTGATAAACAGCAACCCGGCTCATCTTGAAAATTAAAGTGGACACCAAGAAGAAAAG	154
Cavia	CCAGAGACTGCAGCTGGCTGAGAGGAGGAGACCAAGAGCTCTCTTGGAGGTCAAGGGGACACCAAGAAGAAAAG	154
Homo	CCAAAGACTGCAGCTTGAAAGATAAAAAGAGAACAAGTGCCTCTTTTGAAAATTAAAGGCAAGACAAAGAAGAAAAG	154

ENSMUSG00000034617_intron_5



ENSMUSG00000042115 intron 3

Description: Kelch domain-containing protein 8A (Klhdc8a)

Intron number: 3

Mouse chromosome: 1

Upstream exon length: 216

Downstream exon length: 102

Mouse intron length: 573

Intron alignment length: 668

Total murinae branch length: 0.12898

K_score: 0.08447

Scaling factor: 0.71475

ENSMUSG00000042115 exon 3 (ORF 2)

Mus	CGGTCCTGGACCAAGTTCC	CCCAACATTCCCTGTAAAC	CGGGCTTTCTCCAGCTTTT	GTGACCCCTGGACAACCACTT	ATACAG	80
Rattus	CGGTCCTGGACCAAGTTCC	CCCAACATTCCCTGTAAAG	CGGGCTTTCTCCAGCTTTT	GTGACCCCTGGACAACCACTT	GTACAG	80
Cavia	CGGTCCTGGACCAAGTTT	CCCAACATTCCTT	CGAAGCGGGCTTTCTCCAGCTTT	GTGACCCCTGGACAATCACTT	GTACAG	80
Homo	CGGTCCTGGACCAAGTTT	CCCAACATTCCCTA	TAAAGCGGGCTTTCTCCAGCTTT	GTGACCCCTGGACAACCACTT	GTACAG	80

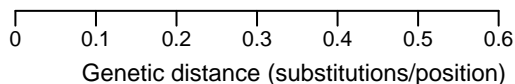
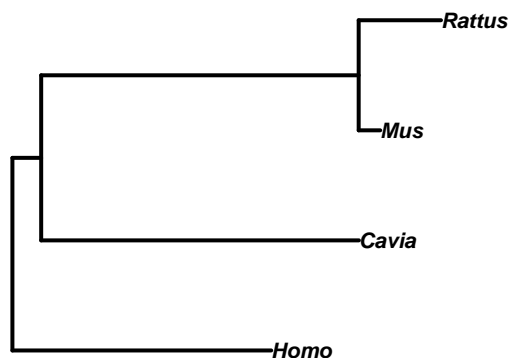
Mus	CCTAGGAGGCCTGC	CCAGGGCC	CGTCTGTACCGGCAGCCAAAGTT	CCTCCGGACAATGGATGT	GTTTCGACATGGAACAG	160
Rattus	CCTAGGAGGCCTGC	CCAGGGCC	CGTCTGTACCGGCAGCCAAAGTT	CCTCCGGACAATGGATGT	GTTTCGACATGGAACAG	160
Cavia	CCTAGGAGGCCTGC	CCAGGGCC	CGTCTGTACCGGCAGCCAAAGTT	CCTCCGGACAATGGATGT	GTTTCGACATGGAACAG	160
Homo	CCTAGGAGGCCTGC	CCAGGGCC	CGTCTGTACCGGCAGCCAAAGTT	CCTCCGGACAATGGATGT	GTTTCGACATGGAACAG	160

ENSMUSG00000042115 exon 4 (ORF 2)

Mus	GGGGATGGCTGAAGATGGAAC	CTCATTCTTCCTCAAGAA	AGCGCGGGCAGACTTTGT	GGCTGGTGGTCTGAGT	GGAAGG	80
Rattus	GGGGATGGCTGAAGATGGAAC	CTCATTCTTCCTCAAGAA	AGCGCGGGCAGACTTTGT	GGCTGGTGGTCTGAGT	GGAAGG	80
Cavia	GGGGATGGCTGAAGATGGAAC	CTCATTCTTCCTCAAGAA	AGCGCGGGCAGACTTTGT	GGCTGGTGGTCTGAGT	GGAAGG	80
Homo	GGGGATGGCTGAAGATGGAAC	CTCATTCTTCCTCAAGAA	AGCGCGGGCAGACTTTGT	GGCTGGTGGTCTGAGT	GGAAGG	80

Mus	GTCATAGTGGCTGGGGC	CCTTG	102
Rattus	GTCATAGTGGCTGGGGC	CCTTG	102
Cavia	GTCATAGTGGCTGGGGC	CCTTG	102
Homo	GTCATAGTGGCTGGGGC	CCTTG	102

ENSMUSG00000042115_intron_3



Mus 72
Rattus 72
Cavia 107
Homo 84

Mus 175
Rattus 171
Cavia 210
Homo 190

Mus 262
Rattus 263
Cavia 302
Homo 293

Mus 355
Rattus 374
Cavia 374
Homo 382

Mus 462
Rattus 481
Cavia 483
Homo 485

Mus 565
Rattus 589
Cavia 580
Homo 572

Mus 573
Rattus 597
Cavia 580
Homo 597

ENSMUSG00000041660 intron 1

Description: Gamma-butyrobetaine dioxygenase (Bbox1)

Intron number: 1

Mouse chromosome: 2

Upstream exon length: 219

Downstream exon length: 115

Mouse intron length: 1557

Intron alignment length: 2500

Total murinae branch length: 0.20839

K_score: 0.03032

Scaling factor: 0.7153

ENSMUSG00000041660 exon 1 (ORF 0)

Mus	TTGGCACGATGGGGCAGAGTCCCTCTACCCAGCAGTATGGCTGAGAGACAACCTGTCAAGTGTTCAGACTGCTACCTACATT	30
Rattus	TTGGCACGATGGGGCAGAGTCCCTCTACCCAGCAGTATGGCTGAGAGACAACCTGTCAAGTGTTCAGACTGCTACCTACATT	30
Cavia	CTGGGATGACGATGGAGAGAGTCCCTGTACCCAGCCGTGTGGCTGAGAGACAACCTGTCAAGTGTTCAGACTGCTACCTGGATT	30
Homo	CTGGTATGATGAGGAAAGAGTCTCTCTACCCAGCCGTGTGGCTGAGAGACAACCTGTCAAGTGTTCAGATTGCTACCTGGATT	30
Mus	CTGCAAAAGCTCGGAAACTTCTCCTGGAAGCTCTTGATGTAACATTAGAATCGATGATTTGACATTTGACCGGAAAAAG	160
Rattus	CTGCAAAAGCTCGGAAACTTCTCCTGGAAGCTCTTGATGTAACATTAGAATCGATGATTTGACATTTGACCGGAAAAAG	160
Cavia	CTGCCAAAGCTCGGAAACTTCTCCTGGAAGCTCTTGATGTAACATTAGAATCGATGATTTGACATTTGACCGGAAAAAG	160
Homo	CTGCAAAAGCTCGGAAACTTCTAGTGAAGCTCTTGATGTAACATTAGAATCGATGATTTGACATTTGACCGGAAAAAG	160

ENSMUSG00000041660 exon 2 (ORF 0)

Mus	GTTTATATCACATGGCCCAATGACCATTACAGTGAATTCGAAGCTAATCGGCTGAAGAAAAAGATGCTTTTCTCAACAGGC	30
Rattus	GTTTATATCACATGGCCCAATGACCATTACAGTGAATTCGAAGCTAATCGGCTGAAGAAAAAGATGCTTTTCTCAACAGGC	30
Cavia	GTTTATATCACATGGCCCAATGACCATTACAGTGAATTCGAAGCTAATCGGCTGAAGAAAAAGATGCTTTTCTCAACAGGC	30
Homo	GTTTATATCACATGGCCCAATGACCATTACAGTGAATTCGAAGCTAATCGGCTGAAGAAAAAGATGCTTTTCTCAACAGGC	30
Mus	CAGAGCAAAGGCTCCAAAGGAGAATTGTTTTTACCAG	115
Rattus	CAGAGCAAAGGCTCCAAAGGAGAATTGTTTTTACCAG	115
Cavia	CAGAGCAAAGGCTCCAAAGGAGAATTGTTTTTACCAG	115
Homo	CAGAGCAAAGGCTCCAAAGGAGAATTGTTTTTACCAG	115

ENSMUSG00000041660_intron_1

