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Human1A4 ATGGAG-----CTGATCCAGGACACCTCCC GCCGCCACTGGAGTACGTGAAGGGGGTCCC GC TCATCAAGTACTT 71
Human1A3 ATGGAG-----CTGATCCAGGACACCTCCC GCCGCCACTGGAGTACGTGAAGGGGGTCCC GC TCATCAAGTACTT 71
Chimp1A3 ATGGAG-----CTGATCCAGGACACCTCCC GCCGCCACTGGAGTACGTGAAGGGGGTCCC GC TCATCAAGTACTT 71
Gorilla1A3 ATGGAG-----CTGATCCAGGACACCTCCTGCCACCACTGGAGTACGTGAAGGGGGTCCC GC TCATCAAGTACTT 71
Human1A2 ATGGAG-----CTGATCCAGGACATCTCTCGCCCCGCCACTGGAGTACGTGAAGGGGGTCCC GC TCATCAAGTACTT 71
Chimp1A2 ATGGAG-----CTGATCCAGGACACCTCCC GCCGCCACTGGAGTACGTGAAGGGGGTCCC GC TCATCAAGTACTT 71
Gorilla1A2 ATGGAG-----CTGATCCAGGACATCTCTCGCCCCGCCACTGGAGTACGTGAAGGGGGTCCC GC TCATCAAGTACTT 71
Human1A1 ATGGAG-----CTGATCCAGGACACCTCCC GCCGCCACTGGAGTACGTGAAGGGGGTCCC GC TCATCAAGTACTT 71
Chimp1A1 ATGGAG-----CTGATCCAGGACACCTCCC GCCGCCACTGGAGTACGTGAAGGGGGTCCC GC TCATCAAGTACTT 71
Gorilla1A1 ATGGAG-----CTGATCCAGGATATCTCCCGCCCTGCCACTGGAGTACGTGAAGGGGGTCCC GC TCATCAAGTACTT 71
Macaca1A1 ATGGAG-----CTGATCCAGGACACCTCTCGCCCCGCCACTGGAGTATGTGAAGGGGGTCCC GC TCATCAAGTACTT 71
Rabbit1A1 ATGGAG-----CTCATCCAGGACACGTCCC GCCCCACCGCTGGAGTACGTGAAGGGGGTCCC GC TCATCAAGTACTT 71
Dog1A1 ATGGAG-----GACATCTCCCAGCACCTCGCGCCACCACCTGAAGTATGTGAAGGGGATCCC TCTAATCAAGTACTT 71
Mouse1A1 ATGGCTCAGAACCCCAAGCAACATGGAGCCCTTCGGTAAACCCACTGGTGCCTGTGAAGGGGAATCCCA TCATCAAAATACTT 80
Rat1A1 ATGGAG-----TTCTCCCGTCCACCCTAGTGCATGTGAAGGGTATCCC ACTCATCAAAATACTT 59
Cow1A1 ATGGAA-----CTGATCCAGGATACCTCCC GCCCTCCAGCAAAGTACGTGAAGGGCATCCCT TCATCAAGTACTT 71
Pig1A1 ATGGAG-----CCGGTCCAGGACACCTACCGCCCGCCACTGGAGTACGTGAAGGGGGTCCC TCTCATCAAGTACTT 71
Platypus1A1 ATGGAA-----CTGTCTCCGGACACGTCCGCCCCACTGGTACGGTCAACGGTCAACCC TCAACCTTCAAGTACTT 71
ruler 1.....10.....20.....30.....40.....50.....60.....70.....80

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Human1A4 TGCAGAGGCAC TGGGGCCCC TGCAGAGCTTCCAAGCCCCGACCTGATGACCTGCTCATCAACACCTACCCC AAGTCTGGCA 151
Human1A3 TGCAGAGGCAC TGGGGCCCC TGCAGAGCTTCCAAGCCCCGACCTGATGACCTGCTCATCAACACCTACCCC AAGTCTGGCA 151
Chimp1A3 TGCAGAGGCAC TGGGGCCCC TGCAGAGCTTCCAAGCCCCGACCTGATGACCTGCTCATCAACACCTACCCC AAGTCTGGCA 151
Gorilla1A3 TGCAGAGGCAC TGGGGCCCC TGCAGAGCTTCCAAGCCCCGACCTGATGACCTGCTCATCAACACCTACCCC AAGTCTGGCA 151
Human1A2 TGCAGAGGCAC TGGGGCCCC TGCAGAGCTTCCAAGCCCCGACCTGATGACCTGCTCATCAGCACCTACCCC AAGTCCGGCA 151
Chimp1A2 TGCAGAGGCAC TGGGGCCCC TGCAGAGCTTCCAAGCCCCGACCTGATGACCTGCTCATCAGCACCTACCCC AAGTCCGGCA 151
Gorilla1A2 TGCAGAGGCAC TGGGGCCCC TGCAGAGCTTCCAAGCCCCGACCTGATGACCTGCTCATCAGCACCTACCCC AAGTCCGGCA 151
Human1A1 TGCAGAGGCAC TGGGGCCCC TGCAGAGCTTCCAAGCCCCGACCTGATGACCTGCTCATCAGCACCTACCCC AAGTCCGGCA 151
Chimp1A1 TGCAGAGGCAC TGGGGCCCC TGCAGAGCTTCCAAGCCCCGACCTGATGACCTGCTCATCAGCACCTACCCC AAGTCCGGCA 151
Gorilla1A1 TGCAGAGGCAC TGGGGTCCCTGCAGAGCTTCCAAGCCCCGACCTGATGACCTGCTCATCAGCACCTACCCC AAGTCCGGCA 151
Macaca1A1 TGCAGAGGCAC TGGGACCCCTGCAGAGCTTCCGGGCCCGCCGATGACCTGCTCATCAGCACCTACCCC AAGTCCGGGA 151
Rabbit1A1 TGTGAGGCAT TGGGGCCACTGCAAAGCTTCAAGGCCCGGCCGATGACCTGCTCATCAGCACCTACCCC AAGTCCGGCA 151
Dog1A1 TGCAGAGGCAC TGGAGTCACTGCAGGACTTCCAAGCTCAGCCTGATGACCTGCTTATCAGCACGTACCCC AAATCTGGCA 151
Mouse1A1 TGGGAGACAAT TGGAGCAACTGCAGAACTTCAAGCTGGCCTGATGATGTGCTCATCAGCACGTACCCC AAAGTCTGGTA 160
Rat1A1 TGCAGAGCAAT TGGGCCATTCAGAACTTCAAGCTGGCCTGATGATGTGCTCATCAGCACGTACCCC AAAGTCTGGTA 139
Cow1A1 TGCAGAGGCCCT TGGGGCCACTGGAGAGCTTTGAAGCCTGGCCTGATGACTTGTCTCATCAGCACCTACCCC AAGTCCGGCA 151
Pig1A1 TGCAGAGGCAC TGGGGCCACTGGAGAGTCTTCCAAGCTTGGCCC GATGACCTGCTCATCAGCACCTATCCC AAATCTGGTA 151
Platypus1A1 CGCTGAGAACT TGGGGGCAC TGGAGAGCTTCCGGGTCCAGCCAGTGAACCTCCTTGTCTCCACCTACCCC AAATCCGGCA 151
ruler .....90.....100.....110.....120.....130.....140.....150.....160

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Human1A4 CCACCTGGGTGAGCCAGATAC TGGACATGATCTACCAGGGCGGCGACCTAGAGAAGTGTAAACGGGGTCCC ATCTACGTA 231
Human1A3 CCACCTGGGTGAGCCAGATAC TGGACATGATCTACCAGGGCGGCGACCTAGAGAAGTGTAAACGGGGTCCC ATCTACGTA 231
Chimp1A3 CCACCTGGGTGAGCCAGATAC TGGACATGATCTACCAGGGCGGCGACCTA CAAAAGTGTAAACGGGGTCCC ATCTACGTA 231
Gorilla1A3 CCACCTGGGTGAGCCAGATAC TGGACATGATCTACCAGGGCGGCAACCTAGAGAAGTGTAAACGGGGTCCC ATCTACGTA 231
Human1A2 CCACCTGGGTGAGCCAGATTC TGGACATGATCTACCAGGGCGGTGACCTGGAAAAGTGTACCAGAGCTCCC ATCTTCATG 231
Chimp1A2 CCACCTGGGTGAGCCAGATTT TGGACATGATCTACCAGGGTGGTGACCTGGAGAAGTGTACCAGAGCTCCC ATCTACATG 231
Gorilla1A2 CCACCTGGGTAAAGCCAGATTC TGGACATGATCTACCAGGGCGGTGACCTGGAGAAGTGTACCAGAGCTCCC ATCTTCATG 231
Human1A1 CTACCTGGGTAAAGCCAGATTC TGGACATGATCTACCAGGGTGGTGACCTGGAGAAGTGTACCAGAGCTCCC ATCTTTCATG 231
Chimp1A1 CCACCTGGGTGAGCCAGATTC TGGACATGATCTACCAGGGCGGTGACCTGGAGAAGTGTACCAGAGCTCCC ATCTTCATG 231
Gorilla1A1 CCACCTGGGTGAGCCAGATTC TGGACATGATCTACCAGGGCGGCGATCTGGAGAAGTGTACCAGAGCTCCC ATCTTCATG 231
Macaca1A1 CTACCTGGGTGAGCCAGATTC TGGACATGATCTACCAAGGTGGCGACCTGGAGAAGTGTCCGGCAGCTCCC ATCTTCATG 231
Rabbit1A1 CTACCTGGGTGAGCGAGATAC TGGATATGATCTACCAGGGCGGTGACCAACAGAAAGTGTCTCCGGCCCCCATCTACATC 231
Dog1A1 CCACTGGGTGAGCGAGATCC TGGACATGATCTACCAAGAGCGGTGATGTAGAGAAGTGTCCGAGGGCCCCCGTCTTATC 231
Mouse1A1 CTAAC TGGATGAGTGATATCATGGATATGATCTATCAGGGTGGCAAGCTAGATAAGTGTGGCCGGGGCCCCCGTCTATGCC 240
Rat1A1 CTACCTGGATGAGTGATATCC TGGATATGATCTATCAGGGTGGCAAGCTAGAGAAGTGTGGCCGGCCCCCATCTATGCC 219
Cow1A1 CCACCTGGGTAAAGCCAGATTC TGGACCTAATCTACCAGGGTGGTGACCTGGAGAAGTGTACAGAGCCCCATCTTTCTTG 231
Pig1A1 CCACCTGGGTGAGCCAGATCC TGGACCTAATCTACCAGGGTGGTGACCTGGAGAAGTGTACAGAGCCCCATCTTTCTTG 231
Platypus1A1 CCACGTGGGTGAGCGAAATCC TGCAGATGATCTACCAGGGAGGAGACCTAGAGAAGTGTCAACGAGCGCTGTCTTCTTA 231
ruler .....170.....180.....190.....200.....210.....220.....230.....240

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Human1A4 CCGGTGCGCCCTTCCCTTGAGGTCAATGATCCAGGGGAACCCCTCAGGGCTGGAGACTCTGAAAGACACACCCGCCCCACGGCT 311
Human1A3 CCGGTGCGCCCTTCCCTTGAGGTCAATGATCCAGGGGAACCCCTCAGGGCTGGAGACTCTGAAAGACACACCCGCCCCACGGCT 311
Chimp1A3 CCGGTGCGCCCTTCCCTTGAGGTCAATGATCCAGGGGAACCCCTCAGGGCTGGAGACTCTGAAAGACACACCCGCCCCACGGCT 311
Gorilla1A3 CCGGTGCGCCCTTCCCTTGAGGTCAATGATCCAGGGGAACCCCTCAGGGCTGGAGACTCTGAAAGACACACCCGCCCCACGGCT 311
Human1A2 CCGGTGCGCCCTTCCCTTGAGTTCAAAGTCCCAGGGATTCCTCAGGGATGGAGACTCTGAAAAACACACCAGCCCCACGACT 311
Chimp1A2 CCGGTGCGCCCTTCCCTTGAGTTCAAAGTCCCAGGGATTCCTCAGGGATGGAGACTCTGAAAGACACACCCGCCCCACGGCT 311
Gorilla1A2 CCGGTGCGCCCTTCCCTTGAGTTCAAAGTCCCAGGGATTCCTCAGGGATGGAGACTCTGAAAGACACAGCAGACCACGACT 311
Human1A1 CCGGTGCGCCCTTCCCTTGAGTTCAAAGCCCCAGGGATTCCTCAGGGATGGAGACTCTGAAAGACACACCCGCCCCACGACT 311
Chimp1A1 CCGGTGCGCCCTTCCCTTGAGTTCAAAGCCCCAGGGATTCCTCAGGGATGGAGACTCTGAAAGACACACCCGCCCCACGACT 311
Gorilla1A1 CCGGTGCGCCCTTCCCTTGAGTTCAAAGTCCCAGGGATTCCTCAGGGATGGAGACTCTGAAAGACACACCCGCCCCACGGCT 311
Macaca1A1 CCGGTGCGCCCTTCCCTTGAGTTCAAAGTCCCAGGGATTCCTCAGGGATGGAGACTCTGAAAGACACACCCGCCCCACGGCT 311
Rabbit1A1 CCGGTGCGCCCTTCCCTTGAGTTCAAAGTCCCAGGGATTCCTCAGGGATGGAGACTCTGAAAGATACACCCGTCGCCCGCGGCT 311
Dog1A1 CCGGTACCCCTTCCCTTGAGTTCAAAGTCCCAGGGATTCCTCAGGGATGGAGACTCTAAAAGATACACCAGCCCCACGACT 311
Mouse1A1 CGGATACCCCTTCCCTTGAGTTCAGCTGCCCCAGGGATTCCTCAGGGATGGAGACTCTGAAAGACACACCCGCCCCACGGCT 320
Rat1A1 CCGGTACCCCTTCCCTTGAGTTCAAAATGTCCAGGGGTTCCTCAGGTCTTGAACCTTGAAGAGACACCAGCCCCACGGCT 299
Cow1A1 CCGGTGCGCCCTTCCCTTGAGTTCAGCTGCCCCAGGGGTTCCTCAGGGTGTGAGCTTCTGAAAGATACACCAGCCCCACGGCT 311
Pig1A1 CCGGTGCGCCCTTCCCTTGAGTTCAAAATCCCCAGGGTGTCCCCACAGGGTTTGTGAGCTGTGAAAGATACACCAGCCCCACGGCT 311
Platypus1A1 CCGGTGCCATTTCGGATTCAGCATCCCAGGGATTCCTCAGGGATGGAGACTCTGAAGACACTCCCTCCCCACGTCT 311
ruler .....250.....260.....270.....280.....290.....300.....310.....320

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Human1A4 CATCAAGTCACACCTGCCCTGGCTCTGCTCCCTCAGACTCTGTTGGATCAGAAGGTCAGGTGGTCTATGTTGCCCGAA 391
Human1A3 CATCAAGTCACACCTGCCCTGGCTCTGCTCCCTCAGACTCTGTTGGATCAGAAGGTCAGGTGGTCTATGTTGCCCGAA 391
Chimp1A3 CATCAAGTCACACCTGCCCTGGCTCTGCTCCCTCAGACTCTGTTGGATCAGAAGGTCAGGTGGTCTATGTTGCCCGAA 391
Gorilla1A3 CATCAAGTCACACCTGCCCTGGCTCTGCTCCCTCAGACTCTGTTGGATCAGAAGGTCAGGTGGTCTATGTTGCCCGAA 391
Human1A2 CCTGAAGACACACCTGCCCTGGCTCTGCTCCCCAGACTCTGTTGGATCAGAAGGTCAGGTGGTCTATGTTGCCCGCA 391
Chimp1A2 CCTGAAGACACACCTGCCCTGGCTCTGCTCCCCAGACTCTGTTGGATCAGAAGGTCAGGTGGTCTATGTTGCCCGCA 391
Gorilla1A2 CCTGAAGACACACCTGCCCTGGCTCTGCTCCCCAGACTCTGTTGGATCAGAAGGTCAGGTGGTCTATGTTGCCCGCA 391
Human1A1 CCTGAAGACACACCTGCCCTGGCTCTGCTCCCCAGACTCTGTTGGATCAGAAGGTCAGGTGGTCTATGTTGCCCGCA 391
Chimp1A1 CCTGAAGACACACCTGCCCTGGCTCTGCTCCCCAGACTCTGTTGGATCAGAAGGTCAGGTGGTCTATGTTGCCCGCA 391
Gorilla1A1 CATCAAGACACACCTGCCCTGGCTCTGCTCCCCAGACTCTGTTGGATCAGAAGGTCAGGTGGTCTATGTTGCCCGCA 391
Macaca1A1 CTTGAAGACACACCTGCCCTGGCTCTGCTCCCCAGACTCTGTTGGATCAGAAGGTCAGGTGGTCTATGTTGCCCGCA 391
Rabbit1A1 CCTCAAGACACACCTGCCCTGGCTCTGCTCCCCAGACTCTCCTGGACCAGAAGGTCAGGTGGTCTACGTTGCCCGCA 391
Dog1A1 CATCAAGACACACCTGCCCTGGCTCTGCTCCCCAGACTCTGTTGGATCAGAAGGTCAGGTGGTCTACGTTGCCCGCA 391
Mouse1A1 CATTAAGACACACTGTGCCCTTGCTCCTTACTCCCTCAGAGTCTGCTGGATCAGAAAGTCAGGTGATCTACGTTGCCCGAA 400
Rat1A1 CCTTAAGACACACTGTGCCCTTGCTCCTTGCCTCCCTCAGAGTCTGCTGGATCAGAAAGTCAGGTGATCTACGTTGCCCGAA 379
Cow1A1 CCTCAAGACACACTGTGCCCTTGCTCCTCCGAAAGCTGCTGGATCAGAAAGTCAGGTGATCTACATGCCCGCA 391
Pig1A1 CCTCAAGACACACTGTGCCCTTGACCTGCTACCCCAGACTCTGCTGGACCAGAAGGTCAGGTGGTCTACGTTGCCCGCA 391
Platypus1A1 ACTCAAGACACACCTGCCCTTGGCTTCCCAAGGTCCTGGTGGATCAGAAGGTCAGGTGATCTACATAGCTCGAA 391
ruler .....330.....340.....350.....360.....370.....380.....390.....400

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Human1A4 ACCCAAAGGACGTGGCGGTCTCCCTACTACCAATTTCCACCCTATGGAAAAGGCGCACCTGAGCCTGGGACCTGGGACAGC 471
Human1A3 ACCCAAAGGACGTGGCGGTCTCCCTACTACCAATTTCCACCCTATGGAAAAGGCGCACCTGAGCCTGGGACCTGGGACAGC 471
Chimp1A3 ACCCAAAGGACGTGGCGGTCTCCCTACTACCAATTTCCACCCTATGGAAAAGGCGCACCTGAGCCTGGGACCTGGGACAGC 471
Gorilla1A3 ACCCAAAGGACGTGGCGGTCTCCCTACTACCAATTTCCACCCTATGGAAAAGGCGCACCTGAGCCTGGGACCTGGGACAGC 471
Human1A2 ACGCAAAGGATGTGGCGGTCTCCCTACTACCAATTTCCACCCTATGGCAAAGGTGTACCCCTACCCTGGGACCTGGGAAAGC 471
Chimp1A2 ACGCAAAGGATGTGGCGGTCTCCCTACTACCAATTTCCACCCTATGGCAAAGGTGTACCCCTACCCTGGGACCTGGGAAAGC 471
Gorilla1A2 ACGCAAAGGATGTGGCGGTCTCCCTACTACCAATTTCCACCCTATGGCAAAGGTGTACCCCTACCCTGGGACCTGGGAAAGC 471
Human1A1 ACGCAAAGGATGTGGCAGTTTCCCTACTACCAATTTCCACCCTATGGCAAAGGTGTACCCCTGAGCCTGGGACCTGGGACAGC 471
Chimp1A1 ACGCAAAGGATGTGGCGGTCTCCCTACTACCAATTTCCACCCTATGGCAAAGGTGTACCCCTGAGCCTGGGACCTGGGACAGC 471
Gorilla1A1 ACGCAAAGGATGTGGCGGTCTCCCTACTACCAATTTCCACCCTATGGCAAAGGTGTACCCCTGAGCCTGGGACCTGGGACAGC 471
Macaca1A1 ACGCAAAGGATGTGGCGGTCTCCCTACTACCAATTTCCACCCTATGGCAAAGGTGTACCCCTGAGCCTGGGACCTGGGACAGC 471
Rabbit1A1 ATGCCAAGGATGTGGCGGTCTCCCTATTACCAATTTCCACCCTATGGCAAAGGTGTACCCCTGAGCCTGGCCTGGGACAGC 471
Dog1A1 ACGCAAAGGATGTAGCTGTCTCCTATTACCAATTTCCACCCTATGGCAAAGGTGTACCCCTGAGCCTGGGACCTGGGACAGC 471
Mouse1A1 ATGCCAAGGATGTGGTGTCTCCTATTATAACTTTCTACAAAATGGCAAAGCTGCACCCCTGACCAGGACCTGGGAAAGC 480
Rat1A1 ATGCCAAGGATGTGGTGTCTCCTATTATAACTTTCTACAAAATGGCAAAGCTGCACCCCTGATCCAGGACCTGGGACAGC 459
Cow1A1 ACGCAAAGGATGTGGCGGTCTCCTATTACCAATTTCTATCGCATGGCAAAGGTGCACCCCTGACCCCTGGCAGCTGGGACAGC 471
Pig1A1 ACGCAAAGGACGTGGCGGTCTCCCTATTACCAATTTCTATCGAATGGCTAAAGTGCACCCCTGATCCGGGACCTGGGAGACC 471
Platypus1A1 ACGCAAAGGACGTGGCGGTCTCCCTACTACCAATTTCTATCGAATGGCTAAAGTGCACCCCTGATCCGGGACCTGGGAGACC 471
ruler .....410.....420.....430.....440.....450.....460.....470.....480

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Human1A4 TTCCGTGAAAAGTTCATGGCTGGAGAAGTGTCTACGGGTCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGCCG 551
Human1A3 TTCCGTGAAAAGTTCATGGCTGGAGAAGTGTCTACGGGTCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGCCG 551
Chimp1A3 TTCCGTGAAAAGTTCATGGCTGGAGAAGTGTCTACGGGTCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGCCG 551
Gorilla1A3 TTCCGTGAAAAGTTCATGGCTGGAGAAGTGTCTACGGGTCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGCCG 551
Human1A2 TTCCGTGAGAAGTTCATGGCTGGAGAAGTGTCTATGGGTCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGCCG 551
Chimp1A2 TTCCGTGAGAAGTTCATGGCTGGAGAAGTGTCTATGGGTCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGCCG 551
Gorilla1A2 TTCCGTGAGAAGTTCATGGCTGGAGAAGTGTCTATGGGTCTGGTACCAGCACGTGCAGGAGTGGTGGGAACTGAGCCG 551
Human1A1 TTCCGTGAGAAGTTCATGGCTGGAGAAGTGTCTACGGATCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGCCG 551
Chimp1A1 TTCCGTGAGAAGTTCATGGCTGGAGAAGTGTCTATGGATCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGCCG 551
Gorilla1A1 TTCCGTGAGAAGTTCATGGCTGGAGAAGTGTCTACGGATCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGCCG 551
Macaca1A1 TTCCGTGAGAAGTTCATGGCTGGAGAAGTGTCTATGGGTCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGCCA 551
Rabbit1A1 TTCCGTGAGAAGTTCATGGCTGGAGAAGTGTCTACGGTCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGCCG 551
Dog1A1 TTCCGTGAGAAGTTCATGGCTGGAGAAGTGTCTATGGGTCTGGTATCAGCATGTGCAGGAATGGTGGGAGCTGAGTCA 551
Mouse1A1 TTCCGTGAGAAGTTCATGGCTGGAGAAGTGTCTATGGGTCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGCCG 560
Rat1A1 TTCCGTGAGAAGTTCATGGCTGGAGAAGTGTCTATGGGTCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGACA 539
Cow1A1 TTCCGTGAGAAGTTCATGGCTGGAGAAGTGTCTACGGTCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGTCA 551
Pig1A1 TTCCGTGAGAAGTTCATGGCTGGAGAAGTGTCTACGGTCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGTCA 551
Platypus1A1 TTCCGTGAGAAGTTCATGGCTGGAGAAGTGTCTACGGTCTGGTACCAGCACGTGCAGGAGTGGTGGGAGCTGAGTCA 551
ruler490.....500.....510.....520.....530.....540.....550.....560

Human1A4 CACCCACCCCTGTTCTTACCTCTTCTATGAAGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGGAGTTTG 631
Human1A3 CACCCACCCCTGTTCTTACCTCTTCTATGAAGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGGAGTTTG 631
Chimp1A3 CACCCACCCCTGTTCTTACCTCTTCTATGAAGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGGAGTTTG 631
Gorilla1A3 CACCCACCCCTGTTCTTACCTCTTCTATGAAGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGGAGTTTG 631
Human1A2 CACCCACCCCTGTTCTTACCTCTTCTATGAAGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGGAGTTTG 631
Chimp1A2 CACCCACCCCTGTTCTTACCTCTTCTATGAAGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGGAGTTTG 631
Gorilla1A2 CACCCACCCCTGTTCTTACCTCTTCTATGAAGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGGAGTTTG 631
Human1A1 CACCCACCCCTGTTCTTACCTCTTCTATGAAGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGGAGTTTG 631
Chimp1A1 CACCCACCCCTGTTCTTACCTCTTCTATGAAGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGGAGTTTG 631
Gorilla1A1 CACCCACCCCTGTTCTTACCTCTTCTATGAAGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGGAGTTTG 631
Macaca1A1 CACCCACCCCTGTTCTTACCTCTTCTATGAAGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGGAGTTTG 631
Rabbit1A1 CACCCACCCCTGTTCTTACCTCTTCTTGGAGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGGAGTTTG 631
Dog1A1 CACTCACCCCTGTTCTTACCTCTTCTATGAGGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGAAGTTTG 631
Mouse1A1 CACTCACCCCTGTTCTTACCTCTTCTATGAAGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTAGAGTTTG 640
Rat1A1 CACTCACCCCTGTTCTTACCTCTTCTATGAAGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTAGAGTTTG 619
Cow1A1 CACCCACCCCTGTTCTTACCTCTTCTACGAGGACATAAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGGAGTTTG 631
Pig1A1 CACCCACCCCTGTTCTTACCTCTTCTACGAGGACATGAAGGAGAACCCCAAAGGGAGATTCAAAGATCCTGGAGTTTG 631
Platypus1A1 GCAGCAACCGGTCTTACCTCTTCTTGAAGACATAAAGGAGGATCCTAAGCGGGAGATTCAAAGATCCTGGAGTTTG 631
ruler570.....580.....590.....600.....610.....620.....630.....640

Human1A4 TGGGGCGCTCCCTGCCAGAGGAGACCATGGACTTCATGGTTTCCAGCACAGTCTGTTCAAGGAGATGAAGAAGAACCCTATG 711
Human1A3 TGGGGCGCTCCCTGCCAGAGGAGACCATGGACTTCATGGTTTCCAGCACAGTCTGTTCAAGGAGATGAAGAAGAACCCTATG 711
Chimp1A3 TGGGGCACTCCCTGCCAGAGGAGACCATGGACTTCATGGTTTCCAGCACAGTCTGTTCAAGGAGATGAAGAAGAACCCTATG 711
Gorilla1A3 TGGGGCGCTCCCTGCCAGAGGAGACCGTGGACTTCATGGTTTCCAGCACAGTCTGTTCAAGGAGATGAAGAAGAACCCTATG 711
Human1A2 TGGGGCGCTCCCTGCCAGAGGAGACTGTGGACTTCATGGTTTCCAGCACAGTCTGTTCAAGGAGATGAAGAAGAACCCTATG 711
Chimp1A2 TGGGGCGCTCCCTGCCAGAGGAGACCGTGGACTTCATGGTTTCCAGCACAGTCTGTTCAAGGAGATGAAGAAGAACCCTATG 711
Gorilla1A2 TGGGGCGCTCCCTGCCAGAGGAGACTGTGGACTTCATGGTTTCCAGCACAGTCTGTTCAAGGAGATGAAGAAGAACCCTATG 711
Human1A1 TGGGGCGCTCCCTGCCAGAGGAGACCGTGGACTTCATGGTTTCCAGCACAGTCTGTTCAAGGAGATGAAGAAGAACCCTATG 711
Chimp1A1 TGGGGCGCTCCCTGCCAGAGGAGACCGTGGACTTCATGGTTTCCAGCACAGTCTGTTCAAGGAGATGAAGAAGAACCCTATG 711
Gorilla1A1 TGGGGCGCTCCCTGCCAGAGGAGACCGTGGACTTCATGGTTTCCAGCACAGTCTGTTCAAGGAGATGAAGAAGAACCCTATG 711
Macaca1A1 TGGGGCGCTCCCTGCCAGAGGAGACCGTAGACTTCATGGTTTCCAGCACAGTCTATTCAAGGAGATGAAGAAGAACCCTATG 711
Rabbit1A1 TGGGGCGCTCCCTGCCAGAGGAGACCGTGGACTTCATGGTTTCCAGCACAGTCTTTCAAGGAGATGAAGAAGAACCCTATG 711
Dog1A1 TGGGGCGCTCCCTGCCAGAGGAGACTGTGGACTTCATTGTTCCAGCACAGTCTTTCAAGGAGATGAAGAAGAACCCTATG 711
Mouse1A1 TGGGGCGCTCTCTACCTGAGGAGACTGTGGATTTAATGTTTACCACACATCCTTCAAGAAAATGAAGGAGAACCCCTATG 720
Rat1A1 TGGGGCGCTCTCTACCTGAGGAGACTGTGGATTTCCATTGTTTACCACACATCCTTCAAGAAAATGAAGGAGAACCCCTATG 699
Cow1A1 TAGGGCGCTCCCTGCCAGAGGAGACTGTGGACTTCATGGTTTCCAGCACAGTCTTTCAAAGAGATGAAGAAGAACCCTATG 711
Pig1A1 TGGGGCGCTCTCTGCCAGAGGAGACCGTGGAGACTTCGTTCCAGCACAGTCTTTCCAGGAGATGAAGAAGAACCCTATG 711
Platypus1A1 TAGACCAGCCTGCTCTGCCAGGAGATATTGGATCGGATTTGTTCCAGGAGACTCCTTCAAAGAGATGAAGGAGAACCCCTATG 711
ruler650.....660.....670.....680.....690.....700.....710.....720

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Human1A4 ACCAACTACACCACCGTCCCCAGGAGTCTATGGACCACAGCATCTCCCCCTTCATGAGGAAAAGGCATGGCTGGGGACTG 791
Human1A3 ACCAACTACACCACCGTCCCCAGGAGTCTATGGACCACAGCATCTCCCCCTTCATGAGGAAAAGGCATGGCTGGGGACTG 791
Chimp1A3 ACCAACTACACCACCGTCCCCAGGAGTCTATGGACCACAGCACCTCCCCCTTCATGAGGAAAAGGCATGGCTGGGGACTG 791
Gorilla1A3 ACCAACTACACCACCGTCCCCAGGAGTCTTATGGACCACAGCATCTCCCCCTTCATGAGGAAAAGGCATGGCTGGGGACTG 791
Human1A2 ACCAACTACACCACCGTCCGCCGGGAGTTCATGGACCACAGCATCTCCCCCTTCATGAGGAAAAGGCATGGCTGGGGACTG 791
Chimp1A2 ACCAACTACACCACCGTCCACCAGGAGTTCATGGACCACAGCATCTCCCCCTTCATGAGGAAAAGGCATGGCTGGGGACTG 791
Gorilla1A2 ACCAACTACACCACCGTCCCCAGGAGTTCATGGACCACAGCATCTCCCCCTTCATGAGGAAAAGGCATGGCTGGGGACTG 791
Human1A1 ACCAACTACACCACCGTCCCCAGGAGTTCATGGACCACAGCATCTCCCCCTTCATGAGGAAAAGGCATGGCTGGGGACTG 791
Chimp1A1 ACCAACTACACCACCGTCCCCAGGAGTTCATGGACCACAGCATCTCCCCCTTCATGAGGAAAAGGCATGGCTGGGGACTG 791
Gorilla1A1 ACCAACTACACCACCGTCCCCAGGAGTTCATGGACCACAGCATCTCCCCCTTCATGAGGAAAAGGCATGGCTGGGGACTG 791
Macaca1A1 GCCAACTACACCACCATCCCCAGGAGTCTATGGACCACAGCATCTCCCCCTTCATGAGGAAAAGGAATGACTGGGGACTG 791
Rabbit1A1 ACCAACTACAGCACCATCCCCGAAAACATCTGGACCACAGCATCTCCCCCTTCATGCGCAGAGGCCGTCGGCAGGGGACTG 791
Dog1A1 GCTAACTACACCACCTTATCTCCTGACATCATGGACCACAGCATTTCTGCCTTCATGAGGAAAAGGCATCTCGGGGGACTG 791
Mouse1A1 GCTAACTACACAACCATCCCCACTGAGATTATGGACCACAGCATTTATCCCTTCATGAGGAAAAGGCATCTCGGGGGACTG 800
Rat1A1 ACTAACTACACAACCATCCCCACTGAGATTATGGACCACAACTGTTTCTCCCTTCATGAGGAAAAGGTACTACTGGGGACTG 779
Cow1A1 ACCAACTACAGCACCATCCCCACTGCACTTCATGGACCACAGCATCTCTGCTTCATGAGGAAAAGGCATGCACTGGTGAATTG 791
Pig1A1 ACCAACTACCGCACCTTCCCCTCCGACATCTGGACCACAGCATCTCAGCCTTCATGAGGAAAAGGCATCCTGGAGATTG 791
Platypus1A1 ACCAACTACAGCTCTGTCCTTCTCATATCTATGGACCACAGGATCTCCCCCTTCATGAGGAAAAGGCACCCCCTGGGGACTG 791
ruler .....730.....740.....750.....760.....770.....780.....790.....800

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Human1A4 GAAGACCACCTTCCCGTGGCGCAGAATGAGCGCTTCGATGCCGACTATGCCGAGAAGATGGCAGGCTGCAGCCTCAGCT 871
Human1A3 GAAGACCACCTTCCCGTGGCGCAGAATGAGCGCTTCGATGCCGACTATGCCGAGAAGATGGCAGGCTGCAGCCTCAGCT 871
Chimp1A3 GAAGACCACCTTCCCGTGGCGCAGAATGAGCGCTTCGATGCCGACTATGCCGAGAAGATGGCAGGCTGCAGCCTCAGCT 871
Gorilla1A3 GAAGACCACCTTCCCGTGGCGCAGAATGAGCGCTTCGATGCCGACTATGCCGAGAAGATGGCAGGCTGCAGCTCAGCT 871
Human1A2 GAAGACCACCTTCCCGTGGCGCAGAATGAGCGCTTCGATGCCGACTATGCCGAGAAGATGGCAGGCTGCAGCCTCAGCT 871
Chimp1A2 GAAGACCACCTTCCCGTGGCGCAGAATGAGCGCTTCGATGCCGACTATGCCGAGAAGATGGCAGGCTGCAGCCTCAGCT 871
Gorilla1A2 GAAGACCACCTTCCCGTGGCGCAGAATGAGCGCTTCGATGCCGACTATGCCGAGAAGATGGCAGGCTGCAGCCTCAGCT 871
Human1A1 GAAGACCACCTTCCCGTGGCGCAGAATGAGCGCTTCGATGCCGACTATGCCGAGAAGATGGCAGGCTGCAGCCTCAGCT 871
Chimp1A1 GAAGACCACCTTCCCGTGGCGCAGAATGAGCGCTTCGATGCCGACTATGCCGAGAAGATGGCAGGCTGCAGCCTCAGCT 871
Gorilla1A1 GAAGACCACCTTCCCGTGGCGCAGAATGAGCGCTTCGATGCCGACTATGCCGAGAAGATGGCAGGCTGCAGCCTCAGCT 871
Macaca1A1 GAAAAACACTTCCCGTGGCGCAGAATGAGCATCTCGATGTGGACTATGCCGAGAAGATGGCAGGCTGCAGCCTCAGCT 871
Rabbit1A1 GAAGACCACCTTCCCGTGGCCAGCATGAGTACTTTGAGGCCGACTACGCCGAGAAGATGGCGGGCTGCAGCTCAGCT 871
Dog1A1 GAAGACCACCTTCACTGTGGCCAGAAATGAGCGCTTTGATGCCGACTATGCCAAGAAGATGGAGGGTTGTTGGCCTCAGCT 871
Mouse1A1 GAAAAATACCTTCACTGTAGCCCAGAGTGAGCACTTTGATGCCACTATGCCAAGCTAATGACAGGTTGTTGACTTCACTG 880
Rat1A1 GAAAAATACCTTCACTGTAGCCCAGAAATGAGCGCTTTGATGCCACTATGCTAAGACAATGACAGATTGTGACTTCAAGT 859
Cow1A1 GAAATCCACCTTCACTGTGGCCAGAAATGAGCTTTTGAAGCCCACTATGCTAAGAAGATGCCGGCTGCACACTCCGCT-- 869
Pig1A1 GAAAGACACTTCACTGTGGCCAGAACGAGCGCTTTGAGGCCGACTATGCTGAGAAGATGGCAGGCTGTAACCTCCGCT 871
Platypus1A1 GAAGAACCACTTCCCGTGGCCAGAAATGAACTGTTGATGTCGACTACGCCAGAGAAAATGGCGGGCTCCGGAGCTGCACT 871
ruler .....810.....820.....830.....840.....850.....860.....870.....880

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Human1A4 TCCGCTCTGAGCTG 885
Human1A3 TCCGCTCTGAGCTG 885
Chimp1A3 TCCGCTCTGAGCTG 885
Gorilla1A3 TCCGCTCTGAGCTG 885
Human1A2 TCCGCTCTGAGCTG 885
Chimp1A2 TCCGCTCTGAGCTG 885
Gorilla1A2 TCCGCTCTGAGCTG 885
Human1A1 TCCGCTCTGAGCTG 885
Chimp1A1 TCCGCTCTGAGCTG 885
Gorilla1A1 TCCGCTCTGAGCTG 885
Macaca1A1 TCCGCTCTGAGCTG 885
Rabbit1A1 TCCGTTCCAGAGCTG 885
Dog1A1 TCCGCACACAGCTG 885
Mouse1A1 TCCGCTGTCAAATA 894
Rat1A1 TTCGTTGTGAACATA 873
Cow1A1 -TCGCTGGGAGCTG 882
Pig1A1 TCCGCTCTGAGCTG 885
Platypus1A1 TCCGCACCGAGCTG 885
ruler .....890....

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