

Additional file 5 - Alternative splicing in PNMA2

>Homo PNMA2 gene (chromosome:GRCh37:8:26361617:26372208;-1)

CCCCACACCGACCTGGTCTGTTGATGTTCTGCAGGGCTTCTTTGCCCGAGGCCCTCCGGA
TCTCCACCTTCCGGCCCCGATTCAACAGATGGCTCTCCGCCGGCGCGCGGCCCTGCCGCG
AGTACGGCGGCTCGGGGTCGGGGCCCAAGTGGGCGACGTCCCGCTGCTGAGCCACCACT
GCCCGAGCGCCCGGCCACCACAGCGAGTCGAAGTCGATGGTCTTGTCTCCGAGGACC
CTTCCACCGGGCAGAACATGCCACAGAAATTTCTGCGGGGGCTTGGGGCTGCCGGAGCCCA
GGTTTTTAAAAAAGCAGGGACCTCTTCGTCTCTGCCGCCCTTCCCGGATTGCTTTCTCT
CGGCCATGGCTCGGGGGCTCGGGTAGGGTCTCGCGTCCGTCCGTCCGTCTGCCAGTCC
CTAAGTCTCCCTCGCTGTGTGCACAAAGCCCCCTAGCTGCTGCCCGGGCTGCCGTTCGCGG
CCCACCGCAAGGTGCACAGAAAGGAAGGAGGGCTGGCGAGCCGGCGACCCACCTCCCGG
TCCCTCCCCCTGACCCCGCTTCTCCCTCCCTGCCACGCCCCCCCGGGCTACAGCGCGA
GCTCGGGGAAGCGGCAAAATTGGATCTGGGAGGGCGCTCCGCTGCGGGCTGCGGGAGCCGAA
AGGCTGCCAATTCCCGCGAGCGCTGGGAGGAGGAGGCGCGGGCGGGGCGCGCGCGGG
GAGGGGAGCGGTGCTCAGGGGAGGGCTGGAGGGGAGGGAAGAGAGAGAGAGGGGAGGGC
GGCACCGCCCCCTAGCCCCGCGCTCCGGAAGTGAAGCGGCCAGACCACCACTAATGGATG
CGGAGCGGAGGGGGCCGCTGACCGCTCTCCGCGCTGGTAAGTATCGGGCAGGGCAGCGG
GAGTGAGGACCGGAGGACGAGCCCCAGCCCCAGTGGCCCCCTCTCTCCACCTGCTTGGC
CCAGGCCCTTCTGCCCGCCGCATGGCGAGGTGGGCGGGGGCGAGGGCGCATGTGGA
TAGGGGTCCCGCCCCGTTACCTGGGTGTGAGCTGATGGATGGGAAAAGGGGACAAGCCG
GGCGCCAGGGTACTCAGGGTGTGGGAAGCGGGATGGCACTGAAGATGAGCAAGGATAGCA
CAGGCAGGGTGGACAGGAGGGGGGCGCCAGACGCTGGACACCCAGCTTCAGTTTGTG
CACTCGCTTGGCAGGCTGCAGGGAGCAGAGACTGAAACGAGAAGGTTCCCGCTTCGTGTC
ATCCACTTTGGTGTGGTGGGTGACGGGGAGTGGGGGGGGGCGACACACATGCGCGG
AAGAAATTCAGAGGGGCGTAGCAGATGGGAGAGGAATATAGAGAGAGACGAGGTCTGCG
GTCTATGGGGGTGTAGCAAGAGTGCAGTCGGGAATTCAGCCCCAGGGCCACGACTTAAA
GACGGGTGACAGCCGACTCTATTGCGCAAGGCGCATGGACCGGTGTCTGCGCCACTGCG
CCAGAAGGGCGCAGGAACGTGTCGCGATTGGTTTATTCTGCTTCTCCACCAAAAAA
AAAAAAGAGAGAAAAAACAACCTGAAACCCCTTCCCAATCTCCAGC
TTTCCCTGCGCCCCAGAGCCCCGCTGGTTCCCGCGCCCTGTTGCGCACTGCGCCACA
CTCGCAGCGTTTCCCGGGTTACAGATGCCACGTTTGGGGAGTAAGTCGGGTGCGCA
TCTGGTCCGAGTAGGAGGTAGGATGTGGGCTGTGAGTGCCATGAATTTGTGGGGCCAA
GCAGGGAAAGGTGTGTAGGAACCTTGGTGTGTGTGTCAGTAGCTGAGCCACGGCCACCG
GGTTGTAAGTAACAGGGGGCAATTAGATTTGTGTGCCTAACACGGTCAATGCTGGTCC
TTCATTTGCTTATTTCCCATCTCCACGTCTTCCGCGTATCAGTCCCTGCTCTGCGCGAT
GACAGCTCCGCTCTCTTTCCACAGTGGCAAAATCTCGAGAAATGGTGGCCCCCTCTTTG
GTGGCCCGGAGGGAGTTCTGGGCATGCTCAGTAACCAAGGTGGGTTTGGGCTGAGAGGC
CGTTTACCGCAGGGCCACCGCTAGGGCCGTGTAACCAAGGATCCAGTCCCATTGTGTCAGC
CCAGGATTAATGCGGTTACCAGCCACCCCCACAGTCCAAATTTGTGAGAGATAGTTTGGTG
AATATAGTTACATCTGCTGGACAATCAGTCGCAATTTGAAGATCAGCCCCATCTTGATAGG
TGGAAGGCGTCTCCGGATGAGAAACAGACTGGGGAAGAAATATAGGAGTGAGGGGGC
TGAGAGAACCGGAGGGGGCATTTTGGACTTAGCGGCAGATGTGCTTTGCATTTGAATAAA
GCATTTGAAAAAGCGCTTCCAACCTGAATTACATCATTTTCTACTCACAGCCCCACTGTG
AGATGCGTGCTTATCAGCACTGCTTCCAGGTTAGGAACAGATTTAGAGAGCTTGGGG
CGCATAGCCCAAGTTGGGTATTTAGTTAAATGATCCAGCAATTCAGTGGGAGTCTTCCA
CCTCAAGTCTGGCTTCTTTCCAGCTTGTCTGTGACCCCCCTTATGTGAGAAAAATACA
AGGTTCTTCTATTTCTACCGTATCCAGATATTTCCATCCATGGCCCTATTGTATATCAAG
GGTGTCTTGGCCATGTTTTTATTTGAAGGTAACACTGCAGGTACACTGGGAGGAAGAG
TCATCTGAAGATAGCCTAACCTCAGCATAGCAGTCACTCTGTAGACCATAGAGATGCTTT
TTCTGGCGAGTGTCTTTTACATTCCTGTCTTCTCTAAATATCCAGTGGGAGGAAG
GTTGCCCCAGCTGGTTTTTTTATTTTTGTTTTGTTTTTTCAGACAGAGTCTCACACTGTC
ACCCAGGCTGGAATGCAATGGTGCAAGCAACCTCACTGTAGCCTTGACCCACTCGGGCTC
AAGCAGTCTTCCCTCTCAGCCTCCCAAGTAGTTGGGACTACAGCGAGTGCCACACGCC
CAGTAAATTTTTTATTTTCTTTTTGTAGAGACAGGGTCGCACTATGTTGCTGGTCTC
AAACTCTGGGCTCAAGTGATCTCCCGCTTTGGCCTCCCAAAGTGCTGGGTTTACAGGT
GTAAGCCACTGCACCTGGCCCCCCCCCAGTCCCCACATTTTAGAAAAGGAAAAGTCAGG
CATGGAGAAATCAGCAGTCTCAGGTCTCTGGGGCTCCTGGGCACAGGGGTGAAGCAGCAT
TTTGGCCTCTGGCTCTCTGGCACCCCTGGTGCCTTACGCACTTCCAGAGACTCAGGA
GATCTTCCACAGCAGGAGCACTGCTGATAGAGTTACAGGACAGCACTGTGGCGTATGGC
CCCCATTGCAATTGATGAAGATGTTTAGGCCAAGGGGGAATGGTTGTAGCCCCCTTAACA
CACACTCCGAGCAGTAACCTGGGAGGTATTAGGAACCTCAACTTTTTTTTTTTTTTTTTT
TGAGACAGAGTCTTGCTCTGTTACTCAGGTTAGAGTGCACTGGTGAATCGTGGCTCACT
GCAACTTCCGCTCTCCAGGTTTAAAGCATTTCTCTGCTCAGCCTCCCAAGTAGCTGGGA
TTACAGGCACGTGCCACCACCCAGATAATTTTTGTATTTTGGTAGAGACGGGGTTTG
GCCATGTTGGCCAGGCTGGTTTCGAATTCCTGACCTCAGTGATCTACCCGCTTGGCTTC
CCAAAGTGCTGGGATTACAGGCATGAGTCACCCAGCCTGGCCAACTCAACTTTTTTACG
TCTCTAATCCTCACAGGTTCTCCAGAACAAATCCTTGATAGGTGTGCTTCCCTCTTTT
TCTTTTTTCTCAAATGATGGGTAAAGTTCAAATGTTAGGAAAGGCTGGGTGTGGTGAT
TCAAGTGTGAATTCAGCACTGTGAGAGGCTGTGGCGGAGGATTGCTTGAGCCCAAGGAG
TTTGAGACCAAGGCTGAACACGTAAGGAGACTGCGTCTCTACACAAAATTTAAAAAATA
GCCAGGCATGGTGGCATGTGCTGTGGTCCAGGTACTCAGGAGGTCGAGGTGGGAGGAT
TGCTTGAGCCCAAGGAGATCAAGGCTACTACAGTGAGCCGTGTTACACCACTGCATTC
CAGCTCGGCAACAGAGTGAGACCTGTCTCAAAAAACAGAAACAGAAACAAATGCTTGG
AGAGTGTGTGTAGTAACCTATTGTCTTAGTCTATTTGTGTGCTATAAAGGAATACC
TGAGGCTGGATAATTTATAAGAAAAAGGTTTATTTGGGTACAGTTCTGCAGGCTGTA
CAAGAAGTATGGTGTGACATCTGCATCTGGTGACCCCTCAGGAAGCTTCCAGTCATAGC
AGAAAGCAAGAGGGAGCAGATGCGGCAAGAAAGGGAGCAAGATGAGGGGAGGGAGGTG
GCAGTCTGTTTTTAACAATCAGATCTCGAGGAAGCTAATAGAACAGAACCCACTCATTA
CCCCAAGAAATGGCACCAAGCCATTATAAGGGATCCACTCTCATGACCCAAACACATCCC
ACCAGGCCCCACCTCCAACACTGGGGATCACATTTGAGCATGAGATTTGGAGGGGACAAA
CCTTCAAACTATTTCATTACCATTCATAGCAAAAGCAAGGCCAAATGTGTGTTTGCAA
AGCCTTCCAGACACAACAAAAGAGAATTAATTCATAATTTCCGATTTAACTTAGTCGGCC
CTGAGATTTTTTCCCTGAATTTGTATACCTAGATTAACTATTTTAAACGTTTGAGTG
ATTCCCTATTAGTTTTGTTAATCAAAGAGGTAAGCAACTTAATATTGAGTAGTATTGTG
AAGGATTATCATATTTTTGAATAAGTGCAATTAACGGTCTTCTACTGAATATTAAATGAAG
CATAAATATGCTTCTTATTGTTTATGTGTAACAGAGCAGCTTGGCTTGGCTGGAGCTAA
GAGCCAGACACACCCTGTGTGGAGGTGGGTGATGTCTTCTGTGCTAAAAGGTGAATAA
ATAAGCTCCTCACTCTCGCGGAACACTCGGGAACACATCAACAGGTATTTAGCCACATC
TCTGATTTCATCTTTCAATGGCAAAGACCTTGAATCCTGTCTTAACTGGGGCTCAGAC
ATTAATCAACAGGTCTGATGAGCATATGGTGGGACACCAGATTTCAATTGGAGTCCCCAA
GAGAAAAAAGTCACAGTGAGCAAAAGAGGGGTCTGACAGAGTGGGACAAATCAAGCG
CAGTGTAAGACAGAACCGCCATCTGCCCCAGTTCCATTCCAGATTAGAGTATGGATGCT

[illegible]

Repetitive sequences (including *Alu* SINEs) in human PNMA2 gene

SW	perc	perc	perc	query	position in query		matching	repeat	position in repeat				
score	div.	del.	ins.	sequence	begin	end	(left)	repeat	class/family	begin	end	(left)	ID

22	50.0	0.0	0.0	UnnamedSequence	696	717	(9875)	+	GC rich	Low_complexity	1	22	(0)	1
184	13.9	0.0	0.9	UnnamedSequence	718	779	(9813)	+	G-rich	Low_complexity	16	73	(0)	2
264	10.0	0.0	0.0	UnnamedSequence	1554	1593	(8999)	+	(A)n	Simple repeat	1	40	(0)	3
357	34.1	9.1	1.7	UnnamedSequence	2384	2604	(7988)	C	MIRc	SINE/MIR	(13)	255	19	4
1790	14.8	2.3	2.0	UnnamedSequence	2896	3200	(7392)	C	AluJb	SINE/Alu	(6)	306	1	5
2187	11.3	0.3	0.0	UnnamedSequence	3523	3822	(6770)	C	AluSx	SINE/Alu	(11)	301	1	6
1623	18.4	0.3	2.0	UnnamedSequence	3945	4253	(6339)	+	AluJr	SINE/Alu	1	304	(8)	7
2461	15.5	3.1	0.0	UnnamedSequence	4284	4696	(5896)	C	MSTB	LTR/ERVL-MaLR	(0)	426	1	8
3488	31.7	1.0	0.7	UnnamedSequence	5837	6952	(3640)	+	MamGyp-int	LTR/Gypsy	4	1122	(3981)	9
405	15.4	1.1	2.2	UnnamedSequence	7137	7229	(3363)	+	CT-rich	Low_complexity	87	178	(0)	10
1694	16.4	1.9	3.5	UnnamedSequence	7230	7546	(3046)	C	AluJb	SINE/Alu	(0)	312	1	11
226	25.7	1.2	16.7	UnnamedSequence	7817	7985	(2607)	C	L2a	LINE/L2	(10)	3416	3250	12
246	6.2	0.0	0.0	UnnamedSequence	8065	8096	(2496)	+	(TTG)n	Simple repeat	2	33	(0)	13
495	29.3	11.5	1.2	UnnamedSequence	8373	8607	(1985)	C	MIRb	SINE/MIR	(7)	261	3	14
549	33.2	4.5	3.6	UnnamedSequence	8647	8671	(1921)	+	Charlie15b	DNA/hAT-Charlie	85	109	(952)	15
2233	9.3	0.3	0.7	UnnamedSequence	8672	8982	(1610)	C	AluSx1	SINE/Alu	(0)	312	3	16
549	33.2	4.5	3.6	UnnamedSequence	8983	9312	(1280)	+	Charlie15b	DNA/hAT-Charlie	110	443	(618)	15
473	27.1	7.0	2.8	UnnamedSequence	9329	9499	(1093)	+	MIRb	SINE/MIR	85	262	(6)	17
545	29.3	8.1	1.7	UnnamedSequence	9522	9854	(738)	+	Charlie15b	DNA/hAT-Charlie	440	793	(268)	18
602	26.8	2.3	1.8	UnnamedSequence	9859	10075	(517)	+	Charlie15b	DNA/hAT-Charlie	837	1054	(7)	19
1254	15.0	3.9	0.5	UnnamedSequence	10386	10592	(0)	C	AluSx3	SINE/Alu	(2)	310	97	20

Genomic alignment of PNMA2 genes (by tracing the timing of *Alu* SINE insertions)

Homo sapiens CCCCACACCCGACCTGGTGGTTGATGTTCTCGAGGGCTTCTTGGCCGAGGCCCTCCGGATCCACACTTCGGGCCGCGATTCAACAGATGGCTCTCCGCGCGCGCGCGCCCTGCGCGG
Pan troglodytes CCCCACACCCGACCTGGTGGTTGATGTTCTCGAGGGCTTCTTGGCCGAGGCCCTCCGGATCCACACTTCGGGCCGCGATTCAACAGATGGCTCTCCGCGCGCGCGCGCCCTGCGCGG
Gorilla gorilla CCCCACACCCGACCTGGTGGTTGATGTTCTCGAGGGCTTCTTGGCCGAGGCCCTCCGGATCCACACTTCGGGCCGCGATTCAACAGATGGCTCTCCGCGCGCGCGCGCCCTGCGCGG
Pongo abelii CCCCACACCCGACCTGGTGGTTGATGTTCTCGAGGGCTTCTTGGCCGAGGCCCTCCGGATCCACACTTCGGGCCGCGATTCAACAGATGGCTCTCCGCGCGCGCGCGCCCTGCGCGG
Macaca mulatta CCCCACACCCGACCTGGTGGTTGATGTTCTCGAGGGCTTCTTGGCCGAGGCCCTCCGGATCCACACTTCGGGCCGCGATTCAACAGATGGCTCTCCGCGCGCGCGCGCCCTGCGCGG
Callithrix jacchus CCCCACACCCGACCTGGTGGTTGATGTTCTCGAGGGCTTCTTGGCCGAGGCCCTCCGGATCCACACTTCGGGCCGCGATTCAACAGATGGCTCTCCGCGCGCGCGCGCCCTGCGCGG
Mus musculus CCCCATACCAACTGATCATAGATGTTCTCGAGGGCTTCTTGGCCGAGGCCCTCCGGATCCACACTTCGGGCCGCGATTCAACAGATGGCTCTCCGCGCGCGCGCGCCCTGCGCGG
Rattus norvegicus CCCCATACCAACTGATCATAGATGTTCTCGAGGGCTTCTTGGCCGAGGCCCTCCGGATCCACACTTCGGGCCGCGATTCAACAGATGGCTCTCCGCGCGCGCGCGCCCTGCGCGG
Bos taurus CCCCATACCAACTGATCATAGATGTTCTCGAGGGCTTCTTGGCCGAGGCCCTCCGGATCCACACTTCGGGCCGCGATTCAACAGATGGCTCTCCGCGCGCGCGCGCCCTGCGCGG
Sus scrofa CCCCATACCAACTGATCATAGATGTTCTCGAGGGCTTCTTGGCCGAGGCCCTCCGGATCCACACTTCGGGCCGCGATTCAACAGATGGCTCTCCGCGCGCGCGCGCCCTGCGCGG
Canis lupus familiaris CCCCATACCAACTGATCATAGATGTTCTCGAGGGCTTCTTGGCCGAGGCCCTCCGGATCCACACTTCGGGCCGCGATTCAACAGATGGCTCTCCGCGCGCGCGCGCCCTGCGCGG
Equus caballus CCCCATACCAACTGATCATAGATGTTCTCGAGGGCTTCTTGGCCGAGGCCCTCCGGATCCACACTTCGGGCCGCGATTCAACAGATGGCTCTCCGCGCGCGCGCGCCCTGCGCGG

Homo sapiens AGTAGCGCGGCTGCGGGTCCGGGCCCAAGTGGGCGACGTCCTCGCTGAGCCACCACTGCCCCGAGCCCCGGCCCCACCGACAGCGAGTCAAAGTCGATGGTCTTGTTCTCCGAGGACC
Pan troglodytes AGTAGCGCGGCTGCGGGTCCGGGCCCAAGTGGGCGACGTCCTCGCTGAGCCACCACTGCCCCGAGCCCCGGCCCCACCGACAGCGAGTCAAAGTCGATGGTCTTGTTCTCCGAGGACC
Gorilla gorilla AGTAGCGCGGCTGCGGGTCCGGGCCCAAGTGGGCGACGTCCTCGCTGAGCCACCACTGCCCCGAGCCCCGGCCCCACCGACAGCGAGTCAAAGTCGATGGTCTTGTTCTCCGAGGACC
Pongo abelii AGTAGCGCGGCTGCGGGTCCGGGCCCAAGTGGGCGACGTCCTCGCTGAGCCACCACTGCCCCGAGCCCCGGCCCCACCGACAGCGAGTCAAAGTCGATGGTCTTGTTCTCCGAGGACC
Macaca mulatta AGTAGCGCGGCTGCGGGTCCGGGCCCAAGTGGGCGACGTCCTCGCTGAGCCACCACTGCCCCGAGCCCCGGCCCCACCGACAGCGAGTCAAAGTCGATGGTCTTGTTCTCCGAGGACC
Callithrix jacchus AGTAGCGCGGCTGCGGGTCCGGGCCCAAGTGGGCGACGTCCTCGCTGAGCCACCACTGCCCCGAGCCCCGGCCCCACCGACAGCGAGTCAAAGTCGATGGTCTTGTTCTCCGAGGACC
Mus musculus -----GTGCGGCTGCGGGGCCCAAGTGGGCGACGTCCTCGCTGAGCCACCACTGCCCCGAGCCCCGGCCCCACCGACAGCGAGTCAAAGTCGATGGTCTTGTTCTCCGAGGACC
Rattus norvegicus -----GTGCGGCTGCGGGGCCCAAGTGGGCGACATCCCGCTGAGCCACCACTGCCCCGAGCCCCGGCCCCACCGACAGCGAGTCAAAGTCGATGGTCTTGTTCTCCGAGGATC
Bos taurus AGTAGCGGCTGCTGCGGGTCCGGGCCCAAGTGGGCGACGTCCTCGCTGAGCCACCACTGCCCCGAGCCCCGGCCCCACCGACAGCGAGTCAAAGTCGATGGTCTTGTTCTCCGAGGACC
Sus scrofa AGTAGCGGCTGCTGCGGGTCCGGGCCCAAGTGGGCGACGTCCTCGCTGAGCCACCACTGCCCCGAGCCCCGGCCCCACCGACAGCGAGTCAAAGTCGATGGTCTTGTTCTCCGAGGACC
Canis lupus familiaris GTGCGGCTGCTGCGGGTCCGGGCCCAAGTGGGCGACGTCCTCGCTGAGCCACCACTGCCCCGAGCCCCGGCCCCACCGACAGCGAGTCAAAGTCGATGGTCTTGTTCTCCGAGGACC
Equus caballus AGTAGCGGCTGCGGGTCCGGGCCCAAGTGGGCGACGTCCTCGCTGAGCCACCACTGCCCCGAGCCCCGGCCCCACCGACAGCGAGTCAAAGTCGATGGTCTTGTTCTCCGAGGACC

Homo sapiens CTTCACCGGGCAGAACATGCCACAGAAATTTCTGCCGGGGCTTGGGGCTGCCGAGGCCAGGTTTTTAAAAAAGCAGGGACCTCTTGCTCCTCTGCCGCTTCCCGGATTGCTTTCTCT
Pan troglodytes CTTCACCGGGCAGAACATGCCACAGAAATTTCTGCCGGGGCTTGGGGCTGCCGAGGCCAGGTTTTTAAAAAAGCAGGGACCTCTTGCTCTCTGCCGCTTCCCGGATTGCTTTCTCT
Gorilla gorilla CTTCACCGGGCAGAACATGCCACAGAAATTTCTGCCGGGGCTTGGGGCTGCCGAGGCCAGGTTTTTAAAAAAGCAGGGACCTCTTGCTCTCTGCCGCTTCCCGGATTGCTTTCTCT
Pongo abelii CTTCACCGGGCAGAACATGCCACAGAAATTTCTGCCGGGGCTTGGGGCTGCCGAGGCCAGGTTTTTAAAAAAGCAGGGACCTCTTGCTCTCTGCCGCTTCCCGGATTGCTTTCTCT
Macaca mulatta CTTCACCGGGCAGAACATGCCACAGAAATTTCTGCCGGGGCTTGGGGCTGCCGAGGCCAGGTTTTTAAAAAAGCAGGGACCTCTTGCTCTCTGCCGCTTCCCGGATTGCTTTCTCT
Callithrix jacchus CTTCACCGGGCAGAACATGCCACAGAAATTTCTGCCGGGGCTTGGGGCTGCCGAGGCCAGGTTTTTAAAAAAGCAGGGACCTCTTGCTCTCTGCCGCTTCCCGGATTGCTTTCTCT
Mus musculus CTTCACCGGGCAGAACATGCCACAGAAATTTCTGCCGGGGCTTGGGGCTGCCGAGGCCAGGTTTTTAAAAAAGCAGGGACCTCTTGCTCTCTGCCGCTTCCCGGATTGCTTTCTCT
Rattus norvegicus CTTCACCGGGCAGAACATGCCACAGAAATTTCTGCCGGGGCTTGGGGCTGCCGAGGCCAGGTTTTTAAAAAAGCAGGGACCTCTTGCTCTCTGCCGCTTCCCGGATTGCTTTCTCT
Bos taurus CTTCACCGGGCAGAACATGCCACAGAAATTTCTGCCGGGGCTTGGGGCTGCCGAGGCCAGGTTTTTAAAAAAGCAGGGACCTCTTGCTCTCTGCCGCTTCCCGGATTGCTTTCTCT
Sus scrofa CTTCACCGGGCAGAACATGCCACAGAAATTTCTGCCGGGGCTTGGGGCTGCCGAGGCCAGGTTTTTAAAAAAGCAGGGACCTCTTGCTCTCTGCCGCTTCCCGGATTGCTTTCTCT
Canis lupus familiaris CTTCACCGGGCAGAACATGCCACAGAAATTTCTGCCGGGGCTTGGGGCTGCCGAGGCCAGGTTTTTAAAAAAGCAGGGACCTCTTGCTCTCTGCCGCTTCCCGGATTGCTTTCTCT
Equus caballus CTTCACCGGGCAGAACATGCCACAGAAATTTCTGCCGGGGCTTGGGGCTGCCGAGGCCAGGTTTTTAAAAAAGCAGGGACCTCTTGCTCTCTGCCGCTTCCCGGATTGCTTTCTCT

Homo sapiens CGGCCATGCTCGGGG---GCTCGGGTAGGGTCTCTCGCGCTCGCTCGCTCGCTCGCTCGCCAGTCCCTAAGTCTCCTCGCT---GTGTGCACAAAGCC---CTAGTCTGCTCGCGGGCTG
Pan troglodytes CGGCCATGCTCGGGG---GCTCGGGTAGGGTCTCTCGCGCTCGCTCGCTCGCTCGCTCGCCAGTCCCTAAGTCTCCTCGCT---GTGTGCACAAAGCC---CTAGTCTGCTCGCGGGCTG
Gorilla gorilla CGGCCATGCTCGGGG---GCTCGGGTAGGGTCTCTCGCGCTCGCTCGCTCGCTCGCTCGCCAGTCCCTAAGTCTCCTCGCT---GTGTGCACAAAGCC---CTAGTCTGCTCGCGGGCTG
Pongo abelii CGGCCATGCTCGGGG---GCTCGGGTAGGGTCTCTCGCGCTCGCTCGCTCGCTCGCTCGCCAGTCCCTAAGTCTCCTCGCT---GTGTGCACAAAGCC---CTAGTCTGCTCGCGGGCTG
Macaca mulatta CGGCCATGCTCGGGG---GCTCAGGAGGGTCTCTCGCGCTCGCTCGCTCGCTCGCTCGCCAGTCCCTAAGTCTCCTCGCT---GTGTGCACAAAGCC---CTAGTCTGCTCGCGGGCTG
Callithrix jacchus CGGCCATGCTCGGGG---GCTCAGGAGGGTCTCTCGCGCTCGCTCGCTCGCTCGCTCGCCAGTCCCTAAGTCTCCTCGCT---GTGTGCACAAAGCC---CTAGTCTGCTCGCGGGCTG
Mus musculus CGGCCATGCTCAGGGGGCGCT---GGGAGAGGTCTCTGCTCTGCTCGCTCGCTCGCTCGCTCGCTCGCCAGTCCCTAAGTCTCCTCGCT---GTGTGCACAAAGCC---CTAGTCTGCTCGCGGGCTG
Rattus norvegicus CGGCCATGCTCGGGTTCGCT---AGGAGAGGTCTCTGCTCTGCTCGCTCGCTCGCTCGCTCGCTCGCCAGTCCCTAAGTCTCCTCGCT---GTGTGCACAAAGCC---CTAGTCTGCTCGCGGGCTG
Bos taurus CGGCCATGCTCGGGG---GCTCGGGAGGGTCTCTCGCGCTCGCTCGCTCGCTCGCTCGCTCGCCAGTCCCTAAGTCTCCTCGCT---GTGTGCACAAAGCC---CTAGTCTGCTCGCGGGCTG
Sus scrofa CTGCCATGCTTGGGG---GCTTGGGAGGTCTCTCTCTCGCTCGCTTTCTTCTCAGCGGGTCCCTAAGTCTGCTCTGCT---CTGTGCAAAAATCC---CCGGGCTGCTGCTCGGCTG
Canis lupus familiaris CGGCCATGCTCGGGG---GCTCAGGAGGGTCTCTCGCG---TGCGCTCGCTCGAGTCCCTAAGTCTGCTCTGCT---CTGTGCAAAATCC---CCGGGCTGCTGCTCGGAGGCTG
Equus caballus CGGCCATGCTCGCGGG---GCTCAGGAGGGTCTCTCTCGCTCGCTCGCTCGCTCGCTCGCTCGCCAGTCCCTAAGTCTGCTCTCT---CTGTGCAAAATCC---CTAGTCTGAGCGCGCGCTA

Homo sapiens CCTTCCGCGCCACCCGCAAGGTGCACAGAAAGGAAGAGGGGCTGGCGAGCCGCGGACCCACC---CTCCGGTCCCTCCCGCTGACCCCGCTT---CTCCCTCTCTGCCACGCCGCCCGCGG
Pan troglodytes CCTTCCGCGCCACCCGCAAGGTGCACAGAAAGGAAGAGGGGCTGGCGAGCCGCGGACCCACC---CTCCGGTCCCTCCCGCTGACCCCGCTT---CTCCCTCTCTGCCACGCCGCCCGCGG
Gorilla gorilla CCTTCCGCGCCACCCGCAAGGTGCACAGAAAGGAAGAGGGGCTGGCGAGCCGCGGACCCACC---CTCCGGTCCCTCCCGCTGACCCCGCTT---CTCCCTCTCTGCCACGCCGCCCGCGG
Pongo abelii CCTTCCGCGCCACCCGCAAGGTGCACAGAAAGGAAGAGGGGCTGGCGAGCCGCGGACCCACC---CTCCGGTCCCTCCCGCTGACCCCGCTT---CTCCCTCTCTGCCACGCCGCCCGCGG
Macaca mulatta CCCTCGCGCCACCCGCAAGGTGCACAGAAAGGAAGAGGGGCTGGCGAGCCGCGGACCCACC---CTCAGGTCCCTCCCGCTGACCCCGCTT---CTCCCTCTCTGCCACGCCGCCCGCGG
Callithrix jacchus CCCTCGCGCCACCCGCAAGGTGCACAGAAAGGAAGAGGGGCTGGCGAGCCGCGGACCCACC---CTCCGGTCCCTCCCGCTGACCCCGCTT---CTCCCTCTCTGCCACGCCGCCCGCGG
Mus musculus CTCTCTCTGCTACCGCAAGGTGCACAGAAAGGAAGAGGGGCTGGCGAGCCGCGGACCCACCCTCGCGTCTCTCTCTCTGACCCCGCTT---TCTCTCTCTGCCACGCCGCCCGCGG
Rattus norvegicus CTACTCTCTGCTACCGCAAGGTGCACAGAAAGGAAGAGGGGCTGGCGAACCAGGCCACCCCTCGCATGCTCTCTCTCTGACCCCGCTT---TCTCTCTCTGCCACGCCGCCCGCGG
Bos taurus CCCTCTCTGCTACCGCAAGGTGTACAGAAAGGAAGAGGGGCTGGCGAAGCAGGACCCACCCCTCTCGTCTCTCTCTCTGACCCCGCTT---TCTCTCTCTGCCACGCCGCCCGCGG
Sus scrofa CTGCTCTCTGCTACCGCAAGGTGTACAGAAAGGAAGAGGGGCTGGCGAGGAGGACCCACCCCTCCCGGCTCTCTCTCTGACCCCGCTT---TCTCTCTCTGCCACGCCGCCCGCGG
Canis lupus familiaris CCCTCTCTGCTACCGCAAGGTGTACAGAAAGGAAGAGGGGCTGGCGAGGAG---CGGCCACCCCTCCCGGCCCTCTCTCTGACCCCGCTT---TCTCTCTCTGCCACGCCGCCCGCGG
Equus caballus CCCTCTCTGCTACCGCAAGGTGTACAGAAAGGAAGAGGGGCTGGCGAGGAGGACGCCGCCCTCCCGGCTCTCTCTCTGACCCCGCTT---TCTCTCTCTGCCACGCCGCCCGCGG

Homo sapiens GCTACAGCGGAGCTCGGGGAAGCGGCAGAAATTTGGATCTGGGA---GGGCGTCCGCTCGCGCTCGCGGAGCGGAAAGGCTGCCAGTT---C---CCGCGAGCGC---TGGGAGG---AGG-----
Pan troglodytes GCTACAGCGGAGCTCGGGGAAGCGGCAGAAATTTGGATCTGGGA---GGGCTCCGCTCGCGCTCGCGGAGCGGCAGAGGCTGCCAGTT---C---CCAGAGCGC---TGGGAGG---AGG-----
Gorilla gorilla GCTACAGCGGAGCTCGGGGAAGCGGCAGAAATTTGGATCTGGGA---GGGCTCCGCTCGCATCGCGGAGCGGAGAGGCTGCCAGTT---C---CCGCGAGCGC---GGGAGG---AGG-----
Pongo abelii GCTACAGCGGAGCTCGGGGAAGCGGCAGAAATTTGGATCTGGGA---GGGCTCCGCTCGCATCGCGGAGCGGAGAGGCTGCCAGTT---C---CCGCGAGCGC---GGGAGG---AGG-----
Macaca mulatta GCTACAGCGGAGCTCGGGGAAGCGGCAGAAATTTGGATCTGGGA---GGGCTCCGCGCGCTCGCGGAGCGGAGAGGCTGCCAGTT---C---CCGCGAGCGC---GGGAGG---AGG-----
Callithrix jacchus GCACCCGCGCGAGCTCGCGGAGCGGCAGAAATTTGGATCTGGGA---GGGCGCGCTCGCTCGCGGAGACCGAGAGGCTGCCAGTT---C---CCGCGAGCGC---GGGAGG---AGG-----
Mus musculus GCGCCACCGCACTCCGA---GCAAAATTTGGATCTGGAGT---GGGCGCTGCTCGCGG---AGAGGATGCCAGTT---C---CCGCGAGCGC---GGGGCGG---AG---GCGGAGTG
Rattus norvegicus GCGCCACCGCACTCCGA---GCAAAATTTGGATCTGGAGT---GGGCGCGTCTCGCGG---AGAGGATGCCAGTT---C---CCGCGAGCGC---GGGAGG---AG---GCGGAGTG
Bos taurus -----CAGCTCCCGGAGCAGCAAAATTTGGGCTGGGA---GGGCTCCGCGCGCTCGCGGAGCAGGAGGCTGCCAGTT---C---CCGCGAGCGC---GGGAGG---AGC-----
Sus scrofa GC---CTCGCGAGCTCCCGGAGCGGCAGAAATTTGGGCTGGGA---GGGTGGCGCTCGCGGAGCAGAAAGCAGAGGCTGCCAGTT---C---CCGCGAGCGC---GGGAGGCTGGGG---
Canis lupus familiaris GC---CCTCCGAGCGCCCGGAGCAGCAAAATTTGGGCTGGGA---GGGCGCGCTCGCGGAGCAGGAG---GAGAGGCTGCCAGTT---C---CCGCGAGCGC---GGGAGG---AGG-----
Equus caballus GC---CTCGGAGCTTTGGGTGAGCGG---AAATTTGGGCTGGGA---GGGCGCGCTCGCGGAGCGGAGCGGAGGCTGCCAGTT---C---CCGCGAGCGC---GGGAGG---AGG-----

Homo sapiens --GAGGCGCGGGCGG-----GGCGCGGCGCG---GGGAGGGGAGCGGT---GCT-----C-AGGGGAG---GGCTGGAGGGGAGGGAAGGAG-----AGA---GA--
Pan troglodytes --GAGGCGCGGGCGG-----GGCGCGGCGCG---GGGAGGGGAGCGGT---GCG-----C-AGGGGAG---GGCTGGAGGGGAGGGAAGGAG-----CGA---GA--
Gorilla gorilla --GAGGCGCGGGCGG-----GGCGCGGCGCG---GGGAGGGGAGCGGT---GCG-----C-AGGGGAG---GGCTGGAGGGGAGGGAAGGAG-----AGA---GA--
Pongo abelii --GAGGCGCGGGCGG-----GGCGCGGCGCG---GGGAGGGGAGGGA---GGG-----C-AGGGGAG---GGCTGGAGGGGAGGGAAGGAG-----AGA---GA--
Macaca mulatta --GAGGCGCGGGTGG-----GGCGCGGCGCG---GGGAGGGGAGCAGC---GCG-----C-AGGGGAG---GGCTGGAGGGGAGGGAAGGAG-----AGA---GA--
Callithrix jacchus --GAGGCGCGGGCGGCGGCGGCGGCGGCGGCGCA---GGGAGGGGAGCGGCG---GCG-----C-AGGGGAG---GGCAGAGGAGGAGGAGGAGGAG-----AGAGAGA---
Mus musculus GGCGGGGCGAGG-----AACCGAGGATCTGAGGAGGGGAGCAGC---AGG-----C-AGGAGAGCCGAGAGGAGGAGCAGCAG---GAG-----GGA---GG--
Rattus norvegicus --GAGGCGCGGGCGG-----AACCGCGCTCAGAGAGGGGAGCAGCAG---AGG-----C-AGGAGAGCCGAGAGGAGGAGCAGCAG---GGA---GG--
Bos taurus --GAGGCGCGGGCGG-----GGCG---G-----AGGCGGGCGCGCG---ACC-----C-CGGGAG---G-----GGAGCAG---GGAG-----CCG---GGGA
Sus scrofa --GAGGCGCGGGCGG-----GGCG---G-----GGGCGGGGCGCGC---G-----C-TGGGAG---G-----GGAGCTC-AGCG-----CTG---GGGA

Canis lupus familiaris --TAGGCGCGTGCGG-----G-CG--G-----GGCGGGGGCGGGGCGCCCGCCCGAGGGAGGTGCGGGGCC--C-----GGAGCGG-AGCGCGGAC-CCG--GGAG
Equus caballus -GGGAGGGAGGAG-----GGAG--G-----AGG-GAGGATGGAGCGCG-----TGCGGGCG--G-----GGGGCGG-GGCGGTCTCTCCG--GGAG

Homo sapiens -----GAGGGAGGGCGG-----CACCGCCCTAGCCCC--CGCTCCGGAAGTGAAGCGGCCAGACACAGCTAATGGATGCGGAGCGGAGGGCCCGCTGACC
Pan troglodytes -----GAGGGAGGGCGG-----CACCGCCCTAGCCCC--CGCTCCGGAAGTGAAGCGGCCAGACACAGCTAATGGATGCGGAGCGGAGGGCCCGCTGACC
Gorilla gorilla -----GAGGGAGGGCGG-----CACCGCCCTAGCCCC--CGCTCCGGAAGTGAAGCGGCCAGACACAGCTAATGGATGCGGAGCGGAGGGCCCGCTGACC
Pongo abelii -----GAGGGAGGGCGG-----CACCGCCCTAGCCCC--CGCTCCGGAAGTGAAGCGGCCAGACACAGCTAATGGATGCGGAGCGGAGGGCCCGCTGACC
Macaca mulatta -----GAGGGAGGGCGG-----CACCGCCCTAGCCCC--CGCTCCGGAAGTGAAGCGGCCAGACACAGCTAATGGATGCGGAGCGGAGGGCCCGCTGACC
Callithrix jachcus -----GAGGGAGGGCGG-----CACCGCCCTAGCCCC--CGCTCCGGAAGTGAAGCGGCCAGACACAGCTAATGGATGCGGAGCGGAGGGCCCGCTGACT
Mus musculus --GTACGAGGGGTGGGGG-----CGCGCCGAGACCT--CGCGCCGGAAGTAAAGCGGACACTCCACCCTAATGGACGCGCGGACGCGCCGACAGACC
Rattus norvegicus -----GTACGAGGGGTGGGGG-----CGCGCTTAAG-CCT--CGCGCCGGAAGTGAAGCGGCCACTCCACCCTAATGGACGCGCGGAGGAAACC
Bos taurus GG-----CAAGGAGGGG-----C-TGCTCCGGAAGTGAAGTGCACACACCGGCTAATGGA-GCGCAGCGGAGGGCCCGCTGACC
Sus scrofa AG-----CTGGGAGGGCGG-----CGCGGCCAGA-CCCC-ACGCTCCGGAAGTGAAGCGGCCAGACCCCGGCTAATGGATGCGGAGCAGAAAGCGCGCTGACC
Canis lupus familiaris GG-----GAGAGCAGGGCGG-----GGCGGCCAGAGCCCC--CGCTCCGGAAGTGAAGCGGCCAGACACCCGCTAATGGATGCGGAGCGGAGGGCCCGCTGACC
Equus caballus AG-----GCGCGCAGCGCAGGGGAGGAGCAGCCGCGCCCGCCAGAGCGCCCGCGCTCCGGAAGTGAAGTGGCCAGACACCGGCTAATGGATGCGGAGCGGAGGGCCCGCTGACT

Homo sapiens GCTCTCCGCGCTGGGTAAGTATCGGGCAGGGCAGCG--GAGTGAGGACCCGAGGACGAGCCCCAGCCCCAGTGCCTCTCTCTCACTGCTGCGCCAGGCGCTCTGCCCGCGG
Pan troglodytes GCTCTCCGCGCTGGGTAAGTATCGGGCAGGGCAGCG--GAGTGAGGACCCGAGGACGAGCCCCAGCCCCAGTGCCTCTCTCTCACTGCTGCGCCAGGCGCTCTGCCCGCGG
Gorilla gorilla GCTCTCCGCGCTGGGTAAGTATCGGGCAGGGCAGCG--GAGTGAGGACCCGAGGACGAGCCCCAGCCCCAGTGCCTCTCTCTCACTGCTGCGCCAGGCGCTCTGCCCGCGG
Pongo abelii GCTCTCCGCGCTGGGTAAGTATCGGGCAGGGCAGCG--GAGTGAGGACCCGAGGACGAGCCCCAGCCCCAGTGCCTCTCTCTCACTGCTGCGCCAGGCGCTCTGCCCGCGG
Macaca mulatta GCTCTCCGCGCTGGGTAAGTATCGGGCAGGGCAGCG--GAGTGAGGACCCGAGGACGAGCCCCAGCCCCAGTGCCTCTCTCTCACTGCTGCGCCAGGCGCTCTGCCCGCGG
Callithrix jachcus GCTCTCCGCGCTGGGTAAGTATCGGGCAGGGCAGCG--GAGTGAGGACCCGAGGACGAGCCCCAGCCCCAGTGCCTCTCTCTCACTGCTGCGCCAGGCGCTCTGCCCGCGG
Mus musculus TCTCTCCGCGCAGGTGAGTGTCTCGATAGCTATAGCC--GGGCAAGACCCGAAAGCTCAGACACTTACT--CCAGAGCCCTCTCCCGACCTTCTCC--TGTAG
Rattus norvegicus GCTCTCCGCGCAGGTGAGTGTCTCGAGAGATACACT--GGGCAAGACCCGAAAGACGATCTGGC-CAAGACTCCACTCCCACTGCTT-----CACTG
Bos taurus GCTCTAGGCGCCACGTGAGTACCCGCGAGGGCAGCGGGGGCGAAGTCTGAGGGCCAGTCCCTGGTCCCCCGCCCTCTCCCGACCTGCGCTCCAGGCGCTCTCTCTCACCG
Sus scrofa GCTCTCGGCCCCAGGTGAGTATGGGGCAGGGCAGCTGGGGGGCGAAGTCTGGGGCGCATCCAGGCCCATCCGACGCCCTCCCTCTCCCGACCTGCGCTCCGCGCGCTGACC
Canis lupus familiaris GCTCTCCGCTCCGGGTAGTGTGGGGCAGCGCAGCAGGGGCGAGACCCGAGGGCGAGTCCCTGGCTCGCGCCCTCTGCCCCAC-----CCCCACCG-----
Equus caballus GCTCTCGGCTTACCGTAAGTATGGGGCAGGGCAGCGGGGGCGCCGAGAGCGGCGCATCGGAGCGCAGCTCTGGCCCGCGCGCTTCTCCCC-----CACCA

Homo sapiens CATGGCGGAGGTGGGCGGGGGCGAGGGCGCACTGTGGATAGGGGTCCCGCCCTGTATCCCTGGGTGTGAGCTGATGGATGGGAAA--AGGG-GACAAGCCG--GGCGCCAGGCTACT
Pan troglodytes CATGGCGGAGGTGGGCGGGGGCGAGGGCGCACTGTGGATAGGGGTCCCGCCCTGTATCCCTGGGTGTGAGCTGATGGATGGGAAA--AGGG-GACAAGCCG--GGCGCCAGGCTACT
Gorilla gorilla CATGGCGGAGGTGGGCGGGGGCGAGGGCGCACTGTGGATAGGGGTCCCGCCCTGTATCCCTGGGTGTGAGCTGATGGATGGGAAA--AGGG-GACAAGCCG--GGCGCCAGGCTACT
Pongo abelii CATGGCGGAGGTGGGCGGGGGCGAGGGCGCACTGTGGATAGGGGTCTCTCTCCGTATCCCTGGGTGTGAGCTGATGGATGGGAAA--AGGG-GACAAGCCG--GGCGCCAGGCTACT
Macaca mulatta CATGGCGGAGGTGGGCGGGGGCGAGGGCGCACTGTGGATAGGGGTTCCTCGGCGGTATCCCTGGGTGTGAGCTGATGGATGGGAAA--AGGG-GACAAGCCG--GGCGCCAGGCTACT
Callithrix jachcus TGAGGCTGTGCTGCGCGGGGTGAGGGCGCACTGTGGCTACGGCTCCCTCCCGTATACCTGGGTGTGAGCTGATGGATGGGAAA--AGGG-GACAAGCCG--GGCGCCAGGCTACT
Mus musculus CATTTGCTAAGGTGGCCCTGGGGCT-----CCCTGGCTCGGTTGAGAGCTGAGGGTTGAGGGAGCCAAAGG-TTCAAGCTT-G-----
Rattus norvegicus CATTTGCTAAGGTGGCCCTGAGACT-----CACTTACGCTC--GGTGAGGGCTGAGGGTTGGGGAGCCAAAGG-GCCAAAGCCG--G-----
Bos taurus CATTTGCGAGGTGGGCCAGCAGCAGTGCCACCCTGGGGAGGGCTCCCTCCCTCGCCCT--GGTGTGAGCTGATGGGTGGGAAA--AGTGGCAGACTCTTGGCGGCTCCAGGATACC
Sus scrofa CATTTGAGAGCTGGCCAGGGGGCAGGGCCCACTGTGTGGAGGGTTCCCTCCCTCCCTAAC--GAGTGGAGCTAATGGATAGGAAA--AGGGCAGACTGATGGAGCT--CAGGACACT
Canis lupus familiaris CATTTGCGAGGTGGGCGGGGGCGAGGGCGCACTGTGGATAGGGGTTCCTCGGCGGTATCCCTGGGTGTGAGCTGATGGATGGGAAA--AGGG-GACAAGCCG--GGCGCCAGGCTACT
Equus caballus CATTTGCGAGGTGGGCGAAAGGCTAGGGCCACCCTGGGGAGGCTTCTCCCTCTTAAACGGGATGTGAACGTATGGATGGGCAA--AGGGGGACAACTGACTGGCGCCAGGACACC

Homo sapiens CAGGCTGTGGG-----AAGC-----GGGATGGCACTGAAGATGAGCAAG-GATAGCAGCAGGCGAGGTGGACAGGAGGG-----GGGCGACCAAGACGCTG-GAC
Pan troglodytes CAGGCTGTGGG-----AAGC-----GGGATGGCACTGAAGATGAGCAAG-GATAGCAGCAGGCGAGGTGGACAGGAGGG-----GGGCGACCAAGACGCTG-GAC
Gorilla gorilla CAGGCTGTGGG-----AAGC-----GGGATGGCACTGAAGATGAGTAAAG-GATAGCAGCAGGCGAGGTGGACAGAGGG-----GGCGAGCAGACGCTG-GAT
Pongo abelii CAGGCTGTGGG-----AAGG-----GGGATGGCACTGAAGATGGCAAG-GATAGCAGCAGGCGAGGTGGACAGGAGGG-----GAGCAGCAGACGCTG-GAC
Macaca mulatta CAGGCTATAG-----AAGG-----GGGTGTACACTGAAGATGACAAAGGGGTAGCAGCAGGCTGGACAGGAGGG-----GGGACGCGCAAGGCGCTG-GAC
Callithrix jachcus CCAGGTGTGG-----AAGG-----GGGTGGCACTGAAGATGACAAAGGGGTGAC-----ACAGGACGG-----GGGACGCGGAGACGCTG-GAC
Mus musculus AAGGCTCTTG-----AACTGGGCGAGGGGTGACCTTGGAAAC-AGCAA-----AGTCTACTTCGGGATAACCAAGTAT-CC-GGC
Rattus norvegicus CAGGCTCTGG-----AAGCTGGGGAGGGGTGACCTTGGAAAC-AGCAA-----GGGATCCCAAGTATTCT-GGC
Bos taurus CATGTTGGAGGGGGCGGGGAGAGAAGG-A-----GGGCGCGCACTAGGACGGGAAGGATGGCGCAGGCTGGCAGAGTGGTGG-----GGCCATACAGGGCGC-
Sus scrofa CAGCGGGAAGG-----TA-A-----GGGCGCGCACTAGGACGGGAAGGATGGCGCAGGCTGGCAGAGTGGTGG-----GGCCATACAGGGCGC-
Canis lupus familiaris CGCGGGCAGGG-----GA-A-----GGGCGCGGCTGACGTGTGGGAAGGGGTGGCTGGTTAGGAAGTGGG-----GGCTTACGAGGACGCG-GAC
Equus caballus CAGGGGGAGGG-----GA-A-----GGGCGCGGCTGCGGGACGGGAGGGGATGGCGCAGGCGCGCGGAGAGGTGG-----GGCCAAACAGGGCGCGG-GAC

Homo sapiens ACCCCAGCCTTCAGTTTGTCCACT-----CGCTTGGC-AGG--CTCGAGGGAGCAGA--GACTGAAACGAGAAGGTTC--CGCTTGTGATCCACTTTGGTGTGGTGGGTGAC
Pan troglodytes ACCCCAGCCTTCAGTTTGTCCACT-----CGCTTGGC-AGG--CTCGAGGGAGCAGA--GACTGAAACGAGAAGGTTC--CGCTTGTGATCCACTTTGGTGTGGTGGGTGAC
Gorilla gorilla ACCCCAGCCTTCAGTTTGTCCACT-----CGCTTGGC-AGG--CTCGAGGGAGCAGA--GACTGAAACGAGAAGGTTC--CGCTTGTGATCCACTTTGGTGTGGTGGGTGAC
Pongo abelii ACCCCAGCCTTCAGTTTGTCCACT-----CGCTTGGC-AGG--CTCGAGGGAGCAGA--GACTGAAACGAGAAGGTTC--CGCTTGTGATCCACTTTGGTGTGGTGGGTGAC
Macaca mulatta ACCCCAGCCTTCAGTTTGTCCACT-----CGCTTGGC-AGG--CTCGAGGGAGCAGA--GACTGAAACGAGAAGGTTC--CGCTTGTGATCCACTTTGGTGTGGTGGGTGAC
Callithrix jachcus ACCCCAGCCTTCAGTTTGTCCACT-----CGCTTGGC-AGG--CTCGAGGGAGCAGAGACTAAGACCGTAAAGTTC--CGCTTGTGATCCACTTTGGTGTGGTGGGTGAC
Mus musculus ACCCAATGCTTTCAGTTTACCCAGCACTGGGGCGCAGGCG--CGGCTAGCAGGAGGGCGTAGCAAGCAGCA-A--GGAAAGGAGAATGTCT--CGCTGCTTGCAAGCCCT--GTGTTGGGA--
Rattus norvegicus ACCCAATGCTTTCAGTTTACCTACGACTTACGAGGCGCAGGCG--GTGCACTGCAAGAGCAGAA-A--GGAAAGGAGAATGTCT--TCCGCTTGCAAGCGCT--GTGTTGGGA--
Bos taurus ACTAGAGGCTTCGTTCTAACACCC-----GGCGCTGGT-GGA--ATACTTGGAGGAGCAGA--GATTGAAACGA--GATTC--CACTTACTGCTCCCACTAGTG-----
Sus scrofa -----GCTCTATCCATT-----GGCCTTGGT-GGG--CTACTTGGAGGAGCAGA--GATTGAAACAA--GTTCCT--CATTTACTATACCCACTGTGGT-----
Canis lupus familiaris ACCGAGCCTT-----GTTAGCCAG-----GGCTGGGGGGGG--CCAC-----GCAGA--GATCGAAACGAAAGGTTCCTCTACTCGCAGCAGCCAGTGGTG-----
Equus caballus ACCGAGCCTTATTTTCCCATG-----GGCATGTT-GGG--CTACTTGGAGGAGCAGA--GATTGAAACGAGAAGGTTC--CACTTGTGTGATCCACAGTGTG-----

Homo sapiens GGGGG--AGTGG--G--GGGGGGGACACAACATGGCGGGA--AGAAATTTCAGAGGGGCGTAGCAGATGGG-----AGAGGA-----ATATA-----G
Pan troglodytes GAGGG--AGTGG--G--G-GGGGGACACAACATGGCGGGA--AGAAATTTCAGAGGGGCGTAGCAGATGGG-----AGAGGA-----ATATA-----G
Gorilla gorilla GGGGG--AGTGG--G--G-GGGGGACACAACATGGCGGGA--AGAAATTTCAGAGGGGCGTAGCAGATGGG-----AGAGGA-----ATATA-----T
Pongo abelii GGGGG--AGTGG--G--GGGGACACAACATGGCGGGA--AGAAATGCAAGAGGGGCGTAGCAGATGGG-----AGAGGA-----ATATA-----T
Macaca mulatta GGGGG--AGTGG--G--GGGGACACAACATGGCGGGA--AGAAATGCAAGAGGGGCGTAGCAGATGGG-----AGAGGA-----ATATA-----T
Callithrix jachcus GGGGG--AGTGG--G--GGGGACACAACATGGCGGGA--AGAAATGCAAGAGGGGCGTAGCAGATGGG-----AGAGGA-----ATATA-----G
Mus musculus GGTGTGGTGTG--G-----GGGGGACACAACATGGCGGGA--AGAAATGCAAGAGGGGCGTAGCAGATGGG-----AGAGGA-----ATATA-----G
Rattus norvegicus -----GGT--GGGGCTTACACACTTGGCGGGGGCGGAAAGCAGAGGGAGCATAGCAATGCA-----ACGCGTGACCGGGG-----G
Bos taurus -----GGT--GGGGCTTACACACTTGGCGGGGGCGGAAAGCAGAGGGAGCATAGCAATGGA-----AGCAGTGACCGGGGTGGGGGTGGGGGTG-----G
Sus scrofa -----ATG-----GTGGGGCGCAATTATGGCCGGG--AGAGACAGAGGGGCGTAGCAATACGA-----AGTGGGTGG-----GTGTA-----G
Canis lupus familiaris -----G-----GGGGCGCGCAGCTGGCGGAG--AGAAATTTCAGAGAGGAGCATAGCAATCGGAGGAAGTGGTAT-----TGCTGTGC-----GTGAGAGTGGGGGGG
Equus caballus -----G-----GAGAGGCACGGCATGGCGGGG--AGAAATTTCAGAGAGGGGCGTAGCAATG-----GTGGGAGC-----GTATA-----G

Homo sapiens AGAGAGA-CGCAGGTCTGCGGTTCTATGG-----GGGTGTAGCAAGAGTGCAGTTCGG-GAA-TTCCAGCCACAGGGCCACGACTTA-----AAGACGGGGTGCA-GACCG
Pan troglodytes AGAGAGA-CGCAGGTCTTGGTCTATGG-----GGGTGTAGCAAGAGTGCAGTTCGG-GAA-TTCCAGCCACAGGGGCCACGACTTA-----AAGAGGGGGTGCA-GACCG
Gorilla gorilla AGAGAGA-CGCAGGTCTGCGGTTCTATGG-----GGGTGTAGCAAGAGTGCAGTTCGG-GAA-TTCCAGCCACAGGGCCACGACTTA-----AAGAGGGGGTGCA-GACCG
Pongo abelii AGAGAGA-CGCAGGTCTGCGGTTCTATGG-----GGGTGTAGCAAGAGTGCAGTTCAG-GAA-TTCCAGCCAGTGCCACGACTTA-----AAGAGGGGGTGCA-GACCG
Macaca mulatta AGAGAGA-CGCAGGTCTGTGTTCTATGG-----GGGTGTAGCAAGAGTGCAGTTCGG-GAA-TTCCAGCCAGTGCCACGACTTA-----GAGAGGGGGTGCA-GACCT
Callithrix jachcus AGAGAGA-CGCAGGTCTGAGGTTCTATA-----GGGTGTAGCAAGAGTGCAGTTCGG-GAA-TTCCAGCCAGTGCCACGCTTA-----GAGAGGGGGTGCA-GACCC
Mus musculus AGAAGAG-AGCAAGCTCTGCGTGGCGGGGGGGGGGGGGGGGGGACATAGTAAAGATGCAGACTGAGGA-TT-----GGCTTTCAGATA-----GAAACTGG-----GACCC
Rattus norvegicus GGGGAGC-AGCAACCTCTGATGCTAGTGA-----GGGATAGTAAAGATGCAGCTGTGGA-TT-----GAGCTTTCAGATA-----GAGAGGGGGTGCA-GACCG
Bos taurus AGACAGAAATAGATCTACAGTCTGTG-----AGTGTAGCAAGAGGCGAGGAGTGG-CAG-CTACAGCCCGCGGCGCAATAGGATATAGTATAGTATAGAGAGGAGGAGCA-GAC-C
Sus scrofa AGAGAGA-CATAGGTCTACAGTCTGTG-----GAGTGTAGCAAGAGTGTGACTG--CAAATTCAGGCCAGCGCGGCAACTTGTGATCTATGATAGAGAGGAGCA-GAC-C
Canis lupus familiaris ATAAAGA-CATAGCCTCCGCGCTGTG-----GAGTGTAGCAAAAGTGCAGTCTG-CAA-ATTCTGGCAGCGAGCGCACTCG-----TAGTAAAGTGGTAGG-GAGCT
Equus caballus AGAGAGA-CATAGTCCACAGGTTCTGTGG-----GAGTGTAGCAAGAGTGCAGTCTG-CAG-T--CT-----GCACGGCACTTA--TATATAGTGGGAGAGCGGCA-AAACC

Homo sapiens ACTCTATTGCGC-AG-GCGCCATGGA-CCGTGTCTGCGCCACTGCGGCAGGAAGGGCGAGGAACGTGTGCGGATTTGGTTTATTCTGCTTCTCTC-----ACCAAAAAAAAAAAAAAAAA
Pan troglodytes ACTCTATTGCGC-AG-GCGCCATGGA-CCGTGTCTGCGCCACTGCGGCAGGAAGGGCGAGGAACGTGTGCGGATTTGGTTTATTCTGCTTCTCTC-----ACCAAAAAAAAAAAAAAAAA
Gorilla gorilla ACTCTATTGCGC-AG-GCGCCATGGA-CCGTGTCTGCGCCACTGCGGCAGGAAGGGCGAGGAACGTGTGCGGATTTGGTTTATTCTGCTTCTCTC-----ACCAAAAAAAAAAAAAAAAA
Pongo abelii GCTCTATTGCGC-AG-GCGCCATGGA-CCGTGTCTGCGCCACTGCGGCAGGAAGGGCGAGGAACGTGTGCGGATTTGGTTTATTCTGCTTCTCTC-----ACCAAAAAAAAAAAAAAAAA
Macaca mulatta GCTCTATTGCGC-AG-GCGCCATGGA-CCATGTCTGCGCCACTGCGGCAGGAAGGGCGAGGAACGTGTGCGGATTTGGTTTATTCTGCTTCTCTC-----ACCAAAAAAAAAAAAAAAAA
Callithrix jachcus GCTCTATTGCGC-AGGGCGCCATGGA-CCCTTTCTGCACACTGCGGCAGGAAGGGCGAGGAACGTGTGCGGATTTGGTTTATTCTGCTTCTCTC-----CC-AAA-AAATAATA-----
Mus musculus GTAACTATCTTGAAG-AGGCCATGCC-CTGCACATCAGCCATGTACTCTAGAAAGGGCTCAGAAAGTGC-CTGGATTGATATCTCCAACTCCCT-----AAA-CACACACAC
Rattus norvegicus TCACATATTCTGAAG-GGGCCATGTTCTGTGCAGCAGCCCAATAGTCTTGAAGGGTTCA-ACGAGTC-CGGGATTGATATCTCCACCTCC-----CACC-C-----
Bos taurus GCGGTTATTGGCGGAG-GCGCGGTGTA-CCGTGCTGTGCGCACTGCGGCAGGAAGGGTTCGGCAGAAAGTCTTCATCTGATATCTTCGCGCCCTTCC--TCTGCGCA-----
Sus scrofa GTACACTTGGC-----GCGCGGTATA-CCGTAATTGTCGCACAGCGAGCAAGAACCCAGAGAAATG-C-----ATCTTCGCGCGCCCAACCGCGGCAAGA-----
Canis lupus familiaris GCTCTTGTGCGCGAAG-GCGCGCGTG-CCGTAGCTGTGCGCACTGCGGCAGGAAGGGCGCGGAGAAATGCTTCATTGTGATCTTCCACTTCTCT-----GCCAAAA-----
Equus caballus GCTATTTTGGCGGAG-GCGCCATGCA-CCA-----GTGACTGCGGCAAGAGGCGCAGGAGACTGTCTTCATTGGTATCTTCGCCC-----ACCAAG-----

Homo sapiens A-AAAAAAAAAGAGA-GAAAAA-----CAAATGAAACCCCTT-CCCAAT-----CTCCAGCTT-T-CCCTTGGCGCCC
Pan troglodytes A-AAAAAAGAGAGA-GAAAAA-----CAAATGAAACCCCTT-CCCAAT-----CTCCAGCTT-T-CCCTTGGCGCCC
Gorilla gorilla AAAAAAAAAATGAGA-GAAAAA-----CAAATGAAACCCCTT-CCCAAT-----CTCCAGCTT-T-CCCTTGGCGCCC
Pongo abelii A-----AAACAAAAA-CAACAAAA-----CAAATTGAAACCCCTT-CCCAAT-----CTCCAGCTT-T-CCCTTGGCGCCC
Macaca mulatta --ACAAAAAGTGGGCG-AAAAAA-----CAAATGAAACCCCTT-CCCAAT-----CTCCAGCTT-T-CC-----TGGCCCC
Callithrix jachcus -----ATAAAAAGGGGGG--GAGAAAA-----CAAATTGAAACCCCTT-CCCAAT-----CTCCAGCTT-T-TCCCGGGCGCCC
Mus musculus --ACACACACACAC-ACACACA-----CACACACACACACAC-CAAAAGCGAAAAATGTTGGGAGCTAAGCAGACTGAAGCAC-----TCATCTTGGCTT-T-C-----A
Rattus norvegicus -----CCAC-ACACACCTGTTTACCTCCTCACCTCAC-CAA-----AATGTTGGGTTCTAAGCAGACCGAAGCACACTCGGACTCATCTTGGCTTTT-C-----A
Bos taurus A-----AGGGGG-AAAGATA-----CACATGGAAGCCACCCCGCCAAAT-----CCTCAGCCC-T-ACCGGGGGCCAC
Sus scrofa -----AGGGAG-AAAGACA-----TTCTTTGAAGCCCACT-CCCAAT-----CTCAGGCC-T-ACCAGCGGCCCA
Canis lupus familiaris -----AGGGG-TAAGAGC-----CAGACTGAAGCCCACT-CCCAAT-----CCCG-----ACCGAGGCCA
Equus caballus -----GGGAG-AAAGCGC-----CAGATTAAAGCCACT-GCCAAAT-----CTCGAGTC-TGACCGCGCGCCC

Homo sapiens A-G-A-----GCCCGCGCTGGTTC-----CG-CGCCCTGTGTGGCACTGGCCACAGCTGCGAGGTTTCCCG
Pan troglodytes A-G-A-----GCCCTCTGGTTG-----CG-CGCCCTGTGTGGCACTGGCCACAGCTGCGAGGTTTCCCG
Gorilla gorilla A-G-A-----GCCCGCGTGGTTTC-----CG-CGCCCTGTGTGGCACTGGCCACAGCTGCGAGGTTTCCCG

Homo abelii A-G-A-----GCCCCCGCTGGTTC-----CC-GGCCCTGTGGCACTGGCCACAGCCGGGTGTTCCCA
 Macaca mulatta A-G-T-----GCCCCGTGATGTC-----CGGCCCTGTGGCACTGGCCACAGCCGGGTGTTCCCA
 Callithrix jacchus A-G-C-----GCCCCCGCTGGTTC-----CGGCCCTGTGGCACTGGCCACAGCCGGGTGTTCCCA
 Mus musculus A-G-T-----GCCCCCGCTGGTTC-----CGGCCCTGTGGCACTGGCCACAGCCGGGTGTTCCCA
 Rattus norvegicus A-GTC-----GC-CTGTCTGGTTC-----CTAGCCCTGTGGCACTGGCCACAGCCGGGTGTTCCCA
 Bos taurus TGG-C-----GCCCCCGCTATTTC-----AG-AGCCATGTAGCCACTGGCCAGATCCGGGGGTTCTTA
 Sus scrofa GGG-C-----GCCCCCGCTATTTC-----CGCCCC-TGCTGGCACTGGCCACAGCCGGGTGTTCTTA
 Canis lupus familiaris -----GCCCTTCTCGCGCCGAGCCGCCCTGATTC-----CGGCCGTGTGGCACTGGCCACAGCCGGGTGTTCCCA
 Equus caballus GGG-GCCCCGCTGCCCCCTCCACCCCAACCCTGCCCTCCAC-----CCCAACCCGCCCTTCAACCCCAACC-GGCCATGTTGGCACTGGCCACAGCCGGGTGTTCCCA

 Homo sapiens **GGTTACCAAGTGCACAGTGTGTTGG-GAGTA-AGTGC-GGGTGGCATCTGGTGCGG-AGTAGAGGTAGGATGTGG-----GCTGTGA-----GTGCC-ATGAATATGTGT-G**
 Pan troglodytes GTTACCAGTGCACAGTGTGTTTGG-GAGTA-AGTGC-----GGTGGCATCTGGTGCGG-AGTAGAGGTAGGATGTGG-----GCTGTGA-----GTGCC-ATGAATATGTGT-G
 Gorilla gorilla GTTACCAGTGCACAGTGTGTTTGG-GAGTA-AGTGC-----GGTGGCATCTGGTGCGG-AGTAGAGGTAGGATGTGG-----GCTGTGA-----GTGCC-ATGAATATGTGT-G
 Pongo abelii GTTACCAGTGCACAGTGTGTTTGG-GAGTA-AGTGC-----GGTGGCATCTGGTGCGG-AGTAGAGGTAGGATGTGG-----GCTGTGA-----GTGCC-ATGAATATGTGT-G
 Macaca mulatta GTTACCAGTGCACAGTGTGTTGG-GAGTA-AGTGC-----GGTGGCATCTGGTGCGG-AGTAGAGGTAGGATGTGG-----GCTGTGA-----GTGCC-ATGAATATGTGT-G
 Callithrix jacchus GTTACCAGTGCACAGTGTGTTGG-GAGTA-AGTGC-----GGTGGCATCTGGTGCGG-AGTAGAGGTAGGATGTGG-----GCTGTGA-----GTGCC-ATGAATATGTGT-G
 Mus musculus GTTGGCCAGTGTCTTCTCTTAGG-GCGCG-AGC-----GTTTGCA-----TGAG-GGTA-GAGTATAGTGTCTGTTTACGGGAGGGTATAC-----ATGCTGTGTAGTGTGG-G
 Rattus norvegicus GTTGGCCAGTGTCTTCTCTTAGG-GCGCG-AGC-----GTTTGCA-----TGAG-GGTA-GAGTATAGCCTGTTTGGGAGAGGTATAC-----ATGTT-TGTAATGTGGGG
 Bos taurus GTTGGCCAGTGTCTTCTCTTAGG-GCGCT-AGTGC-G-----CGAGAGTCAAGTACAGATCAGATCGAGTGGCGG-C-----GCTGTGATG-TGTGCC-TTGTAATGTGT-G
 Sus scrofa GTTGGCCAGTGTCTTCTCTTAGG-GCGCT-AGTGC-G-----CGCGGGCCAGTGCAGGGTAAAGATGGGGTGTCA-----GCTGTGATG-AGTT-----AAGAGATGTGT-G
 Canis lupus familiaris GTTGGCCAGTGTCTTCTCTTAGG-GCGCT-AGTGC-G-----CGCGGGCCAGTGCAGGGTAAAGATGGGGTGTCA-----GCTGTGATG-AGTT-----AAGAGATGTGT-G
 Equus caballus GTTGGCCAGTGTCTTCTCTTAGG-GCGCT-AGTGC-G-----CGCGGGCATCTGGTGGG-GGTAGAGTGGGGTGTCT-----TCTGTGATGTAGTACC-TTGACTGTGT-G

 Homo sapiens **GGGCCAAGCAGGGGAAAGGTGTGTAGAACTTGGTGTGTGTGC-A-----GTAGCTGAGCCACGGCA-----CCGGGTGGTAAFTA-----ACAGGGGGCAATTAGATTGT-----**
 Pan troglodytes GGGCCAAGCAGGGGAAAGGTGTGTAGAACTTGGTGTGTGTGC-A-----GTAGCTGAGCCACGGCA-----CCGGGTGGTAAFTA-----ACAGGGGGCAATTAGATTGT-----
 Gorilla gorilla GGGCCAAGCAGGGGAAAGGTGTGTAGAACTTGGTGTGTGTGC-A-----GTAGCTGAGCCACGGCA-----CCGGGTGGTAAFTA-----ACAGGGGGCAATTAGATTGT-----
 Pongo abelii GGGCCAAGCAGGGGAAAGGTGTGTAGAACTTGGTGTGTGTGC-G-----GTAGCTGAGCCACGGCA-----CAAGGTGGTAAGTA-----ACAGGGGGCAATTAGATTGT-----
 Macaca mulatta GGGCCAAGCAGGGGAAAGGTGTGTAGAACTTGGTGTGTGTGC-AG-----GTAGCTGAGCCACGGCA-----CAGGG-TGGTAATGTTTGCACAGGGGCAATTAGATTGT-----
 Callithrix jacchus GGGCCAAGCAGGGGAAAGGTGTGTAGAACTTGGTGTGTGTGC-AG-----GTAGCTGAGCCACGGCA-----CAGGGTGGTAAGG-TAGGGTGGTAAGG-TG-GGGGGGGCAATTAGATTGT-----
 Mus musculus CAGCCAA-----GTGCGGATTCGAGTGTGTGTGC-----GTAGCCATTCAGCCACGGC-CAGGTTTGA-----
 Rattus norvegicus CAGCCAA-----GTGCGGATTCGAGTGTGTGTGC-----GTAGCCATTCAGCCACGGC-CAGGTTTGA-----
 Bos taurus AGGCCAAGCAGCGAAAGGTGTGTAGGAGCTGTGTGTATGCAC-AG-----GTAGATCAGCCACGGCA-----TGGTAATGTAGACA-----TCCAGGGGGCAATTGTAGTAAGCCAG
 Sus scrofa AATACACAGAGAGATAGGAGTATGGGACATGTGTGTATGCAC-CA-----GTAGATCAGCCACAGCCACAGCCCTTATGTGGCA-----TCCAGAGGGCAATTAAATGA-----
 Canis lupus familiaris AGGCCACGGCA-----GGGTGCTGGGCTGTG-TGTGTGTGGGGG-G-----CTAAGCAGCCACAGCTA-----TCTGGTGGGGTGGCA-----GATAAGGGCAATTAGATTGT-----
 Equus caballus AGGCCAAGTGTGGGAAAGGTGTGTGGGACT-TGTGTGTATGTGC-GG-----GTAGACAGCCACAGCA-----CAGGTTAGGAGGGCA-----TCCAGGGGCACTTGTAGTTGT-----

 Homo sapiens -----TGTGCTAACACGGTCAATGCTGTCTTCAATGCTTATCCCAT-CTCACGTCTTCTTCGGGTATCAGTCCCTGCCCTGTGGCGATGACAGCTCGCCCTCTCTTCCACAG
 Pan troglodytes -----TGTGCTAACACGGTCAATGCTGTCTTCAATGCTTATCCCAT-CTCACGTCTTCTTCGGGTATCAGTCCCTGCCCTGTGGCGATGACAGCTCGCCCTCTCTTCCACAG
 Gorilla gorilla -----TGTGCTAACACGGTCAATGCTGTCTTCAATGCTTATCCCAT-CTCACGTCTTCTTCGGGTATCAGTCCCTGCCCTGTGGCGATGACAGCTCGCCCTCTCTTCCACAG
 Pongo abelii -----TGTGCTAACATGTGATGCTGTCTTCAATGCTTATCCCAT-CTCACGTCTTCTTCGGGTATCAGTCCCTGCCCTGTGGCGATGACAGCTCGCCCTCTCTTCCACAG
 Macaca mulatta -----TGTG-CTAACACGGTCAATGCGGGTCTTCAATGCTTATCCCAT-CTCACGTCTTCTTCGGGTATCAGTCCCTGCCCTGTGGCGATGACAGCTCGCCCTCTCTTCCACAG
 Callithrix jacchus -----TGTG-CTAACACGGTCAATGCGGGTCTTCAATGCTTATCCCAT-CTCACGTCTTCTTCGGGTATCAGTCCCTGCCCTGTGGCGATGACAGCTCGCCCTCTCTTCCACAG
 Mus musculus -----C-TGCGTAACCGGGTGTGAGGCTCTTCAATGCTTATCCCAT-CTCACGTCTTCTTCGGGTATCAGTCCCTGCCCTGTGGCGATGACAGCTCGCCCTCTCTTCCACAG
 Rattus norvegicus -----G-----GCTTATGCTTATGCTTATCCCAT-CTCTCTG-----TGGTGTGTTAAGCCCTCTGCTTGTCTTCCACAG
 Bos taurus TACATCAGGCGAGTAAACGGCTCCAAAGCCCTTCAATGCTTATCCCAT-CTCACGTCTTCTTCGGGTATCAGTCCCTGCCCTGTGGCGATGACAGCTCGCCCTCTCTTCCACAG
 Sus scrofa -----TGCCATTAACACGGTCTTGAGGCGTCTTATTAATCTACACTT-CCCTGTCTCTTCCAGCTCTCAGTCTCGCTTCCGATGATTTAGTACAGCCCTGCTTCTCTCTTCCAG
 Canis lupus familiaris -----TGTGGGAAAGCCGGCTCTGAGGATCTTCAATGCTTATCCCAT-CTCTGCT-CCCCAGCTCTTTCGGGTATCAGTCTCGCTTCCGCGATGATTAACAGCCGCCCTCTTCCATAG
 Equus caballus -----TGCCATGGGACGGCTCTGAGGCTCTTCAATGCTTATCCCAT-CCCCGGGCTCTTTCATGTATCAGTCTCGCTTCTGGCGATGATTAAC-CCCCACCCCTCTTCCACAG

 Homo sapiens TGGCAAAATCTTCGAGAAATGGTGCCCCCTCTTGGTGGCCCCGAGGAGATCTGGGCATGCTCAGTA-ACAGAGGTGGGTTTGGGT-GAGAG-GCGGTTTACCGCAGGGCCACCG
 Pan troglodytes TGGCAAAATCTTCGAGAAATGGTGCCCCCTCTTGGTGGCCCCGAGGAGATCTGGGCATGCTCAGTA-ACAGAGGTGGGTTTGGGT-GAGAG-GCGGTTTACCGCAGGGCCACCG
 Gorilla gorilla TGGCAAAATCTTCGAGAAATGGTGCCCCCTCTTGGTGGCCCCGAGGAGATCTGGGCATGCTCAGTA-ACAGAGGTGGGTTTGGGT-GAGAG-GCGGTTTACCGCAGGGCCACCG
 Pongo abelii TGGCAAAATCTTCGAGAAATGGTGCCCCCTCTTGGTGGCCCCGAGGAGATCTGGGCATGCTCAGTA-ACAGAGGTGGGTTTGGGT-GAGAG-GCGGTTTACCGCAGGGCCACCG
 Macaca mulatta TGGCAAAATCTTCGAGAAATGGTGCCCCCTCTTGGTGGCCCCGAGGAGATCTGGGCATGCTCAGTA-ACAGAGGTGGGTTTGGGT-GAGAG-GCGGTTTACCGCAGGGCCACCG
 Callithrix jacchus TGGCAAGATCTTCGAGAAATGGTGCCCCCTCTTGGTGGCCCCGAGGAGATCTGGGCATGCTCAGTA-ACCTGGGTGGGTTTGGGT-GAGAG-GCGGTTTCCCGCAGGCGACTG
 Mus musculus TGGCTAAAGCTGCAAAAGTGTGGCCATCTCTTAGGGGTCTTGAGCAGATGATGAGATGCTCAGTA-AGATGGTGGGTTTGGTCTAGAGAG-GCAGTTTACTGACAGCTGTCT
 Rattus norvegicus TGGCTGAAAGCTGCAAAAGTGTGGCCATCTCTTAGGGGTCTTGAGTGAAGATGATGAGTCTCAGTA-AGATGGTGGGTTTGGTCTAGAGAG-GCAGTTTACTGACAGCTGTCT
 Bos taurus TGGCAAAACCTTCGAGAAACAGTATGCCATCTCTTGGCAGCTGAGAAGAGCTCTGGGCATGCTCAGTA-AGATGGGTGGGTTTAGACT-GGGAA-ACATCTTAACCAAGGAGCGCTC
 Sus scrofa TGGCAAAATCTTCGAGAAATGATGCCATCTCTTGGCTGCGAGAAGAGATCTGGGCATGCTCAGTA-AGTGGGTGGT-TGACT-GGAA-ACATCTTACCATAGGAGTGTG
 Canis lupus familiaris TGGCAAAATCTTCGAGAAATGATGCCATCTCTTGGCAGTGAAGAGAGATCTGGGCATGCTCAGTA-ACAGAGGTGGGTTTGGGT-GGGAGAGCTGTTTACCGCAGAGCCCGG
 Equus caballus TGGCAAAATCTTCGAGAAATGGTGCCCCCTCTTGGCGCTGAGAAGAGATCTGGGCATGCTCAGTA-ACAGAGGTGGGTTTGGGT-AAGAG-GT-----AG

 Homo sapiens -----CTGAGGCGGCTGTAAACAGGATTCAGTCTCCATCTGTCAGCCC-----AGGATTAATGCGGTTACCAACACC-----CCACAGTCCAAATTGTAGAGATAGTTTGGTGAAT
 Pan troglodytes -----CTGAGGCGGCTGTAAACAGGATTCAGTCTCCATCTGTCAGCCC-----AGGATTAATGCGGTTACCAACACC-----CCACAGTCCAAATTGTAGAGATAGTTTGGTGAAT
 Gorilla gorilla -----CTGAGGCGGCTGTAAACAGGATTCAGTCTCCATCTGTCAGCCC-----AGGATTAATGCGGTTACCAACACC-----CCACAGTCCAAATTGTAGAGATAGTTTGGTGAAT
 Pongo abelii -----CTGAGGCGATGTAAACAGGATTCAGTCTCCATCTGTCAGCCC-----AGGATTAATGCGGTTACCAACACC-----CCACAGTCCAAATTGTAGAGATAGTTTGGTGAAT
 Macaca mulatta -----CCGAGGCGGCTGTAAACAGGATTCAAATCCATCTGTCAGCCC-----AGGATTAATGCGGTTACCAACACC-----CCACAGTCCAAATTGTAGAGATAGTTTGGTGAAT
 Callithrix jacchus -----CTGAGGCGGCTGTAAACAGGATTCAGTCTCCATCTGTCAGCCC-----AGGATTAATGCGGTTACCAACACC-----CCACAGTCCAAATTGTAGAGATAGTTTGGTGAAT
 Mus musculus -----CACAGGGCTTGTGACCAAGAAATCGATCCCATCTGTCAGCCCTTGTAGTAACTAGTTGTGAGATATATCAAGCCCT-----CAGTGTGCCGAGATGCTGATTGAT
 Rattus norvegicus -----CACAGGGCTTGTGACCAAGAAATCGATCCCATCTGTCAGCCCTTGTAGTAACTAGTTGTGAGATAT

Sus scrofa	A--TGA-GTGT--TCATTGTACCACCTTCCCAGGATTCACAGGGTAGAAAAAC--AGATGTAGAG-----GCTTTGCCCAAGGTAACGTGTCTAGTTAAATGATCCAGCAATTCCAGT
Canis lupus familiaris	ATAGGA-GTGCTTTTATCATCACCAT-----TTCAGAGCAGGAAAC--AGATCTAGAGAGATTGAAGCACTTTGGCTAAGGTCACTATGTAGCTAAATGATCCAGCCAA--CAAC
Equus caballus	A--AGA-GTGCT-TTATCATCCCTGCT-----TCTGGGGTAGGAAACTGAGATTAGAGCCATTGAGGAGCTTTGCCCAAGGTCACTATCTGGCTAAATGATCCAGCAGTTGCGAGT
Homo sapiens	GG-----
Pan troglodytes	GG-----
Gorilla gorilla	GG-----
Pongo abelii	GA-----
Macaca mulatta	GA-----
Callithrix jacchus	GG-----
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	GG-----
Sus scrofa	GA-----
Canis lupus familiaris	GACACCTGTGAAATCTGAGTCCCTTTTTTCTTTTTTAAGATTTTATTATTCTTCATGAGAGACACACACAGAGAGAGGCAGAGACACAGGCTGAGGGAGAAGCAGGCTCCATGCAGGGAG
Equus caballus	GG-----
Homo sapiens	-----GAGTCTTCCACCTCAAAGTCTGGCTTCTTTTCCAGCTTGTCTCG
Pan troglodytes	-----GAGTCTTCCACCTCAAAGTCTGGCTTCTTTTCCAGCTTGTCTCG
Gorilla gorilla	-----GAGTCTTCCACCTCAAAGTCTGGCTTCTTTTCCAGCTTGTCTCG
Pongo abelii	-----GGGCTTCCACCTCAAAGTCTGGCTTCTTTTCCAGCTTGTCTCG
Macaca mulatta	-----GG-GCTTACACCTCAAAGTCTGGCTTCTTTTCCAGCTTGTCTCG
Callithrix jacchus	-----G-GCTTCCACCTCAAAGTCTGGCTTCTTTTCCAGCTTGTCTCG
Mus musculus	-----G---CCCCAAGGCCTGGTTCCTTCAACAGGTATATCTA
Rattus norvegicus	-----GCCCCCCCCCCAGCCTGGTTCCTTCAACAGGTATATCTA
Bos taurus	-----G-GTCTTCCACCTGAAAGTCTAGTTCCTTTTCCACTTTATCTGA
Sus scrofa	-----G-GTCTTCCACCTGGAAGTCTGGTTCCTTTTGCACCTTATCTGA
Canis lupus familiaris	CCCCATGTGGGACTCGATCCCTGGTTTCCAGGATCACACCTGGAGCTGAAGGCAGCGCTAAACACCTGAGCCACCG-GGCTGC--CCGGAAATCTGATTCCTTTTCCAACTTATCCCA
Equus caballus	-----G-GTCTTCCACCTGAAAGTCTGGCTTCTTTTCCAACTTATCATA
Homo sapiens	TGACCCCTTTTATGTGAGAA-AATACAAGGTTCTT-----
Pan troglodytes	TGACCCCTTTTATGTGAGAA-AATACAAGGTTCTT-----
Gorilla gorilla	TGACCCCTTTTATGTGAGAA-AATACAAGGTTCTT-----
Pongo abelii	TGACCCCTTTTATGTGAGAA-AATACAAGGTTCTT-----
Macaca mulatta	TGACCCCTTTTATGTGAGAA-AATACAAGGTTCTT-----
Callithrix jacchus	TGACCCCTTTTATGTGAGAA-AATACAAGGTTCTTCTTTTTTTTTTTTTTTTTTTTGTAGACGGAGTTTGCCTCTTGTTACCTAGGCTGGAGTGAATGGCGGATCTCGGCTCACCGCAA
Mus musculus	TAGGCCCTCTTA-GTGAGAAAAGTACAAAATCCTT-----
Rattus norvegicus	TAGGCCCTCTTA-GTGAGAAAAGTACAAAATCCTT-----
Bos taurus	T-----CTTATGTGAG-----ATTTC
Sus scrofa	T-----CTTATGAGAGAA-AGGACAAGATTTTC
Canis lupus familiaris	T-----CTTTACCTAGAA-AATACAAAATTTT
Equus caballus	T-----CTTTATGTGAGAA-AATACGAGATTTTC
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jacchus	CCTCCGCCTCCTGGGTTACGGCAATTTTCTGCCTCAGCCTCCTGAGTAGCTGGGATTACAGGCACGCGCTACCATGCCAGCTGATTTTTTGTATTTTGTAGTAGACGGGTTTCACC
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----CTATT---TCTACCG
Pan troglodytes	-----CTATT---TCTACCG
Gorilla gorilla	-----CTATT---TCTACCG
Pongo abelii	-----CTATT---TCTACCG
Macaca mulatta	-----CTATT---TCTACCG
Callithrix jacchus	ATGTTGACCAAGATGGTCTCAATCTCTGACCTCGTGATCAACCGCCTCTGCCTCCCAAAGTGGGATTACAGGCTTGAGCCACCGCCCGGCCCAAGGTTCTTCTATT---TCTACC-
Mus musculus	-----GCATT-CT---TCCA
Rattus norvegicus	-----GCATT-CTTCTCCA
Bos taurus	-----ACATTT---TTTCCCC
Sus scrofa	-----ACATTT---TCCCCTA
Canis lupus familiaris	-----ACTTTT---TT
Equus caballus	-----ACGTTT---TC
Homo sapiens	TATCCAGATATTTCCA-----
Pan troglodytes	TATCCAGATATTTCCA-----
Gorilla gorilla	TATCCAGATATTTCCA-----
Pongo abelii	TATCCAGATATTTCCA-----
Macaca mulatta	TATCCAGATATTTCCA-----
Callithrix jacchus	-----ATATTTCCA
Mus musculus	TACCCAAGCATTTCCC-----
Rattus norvegicus	TACCCGAATATTTCTC-----
Bos taurus	TATCCAAATATTTCCAGTCTTGGTCTTATCCTGAAGCACCCAGGTGGCTCAGACCATAAAGAATCAGCTGCAATGCAAGAGACCCAGGTTCCATCCCTGGGTGGGGAAGATACCTGGA
Sus scrofa	TATCCAAATATTTCCA-----
Canis lupus familiaris	TATCCAAATATTTCCA-----
Equus caballus	-----CA-----
Homo sapiens	-----TC
Pan troglodytes	-----TC
Gorilla gorilla	-----TC
Pongo abelii	-----TC
Macaca mulatta	-----TC
Callithrix jacchus	-----TC
Mus musculus	-----T
Rattus norvegicus	-----
Bos taurus	GAAGGAAATTGCAACCCATTCCAGTATTCTTGCCCTAGAAATCCCATGGACAGAGAGCCCTGGAGGGCTGTAGTCCATGAGGTACAAAGATGGGACATGACCAGTGACTAACACTTTC
Sus scrofa	-----TC
Canis lupus familiaris	-----TC
Equus caballus	-----TC
Homo sapiens	CATGGCCCTATTGTATATCAAGGGTGTTTC--TT--GCCA--TGTT-----T-----
Pan troglodytes	CATGGCCCTATTGTATATCAAGGGTGTTTC--TT--GCCA--TGTT-----T-----
Gorilla gorilla	CATGGCCCTATTGTATATCAAGGGTGTTTC--TT--GCCA--TGTT-----T-----
Pongo abelii	CGTGGCCCTATTGTATATCAAGGATGTTTC--TT--GCCA--TGTT-----T-----
Macaca mulatta	CATGGCCCTATTGTATATCAAGGGTGTTTC--TT--GCCA--TGTT-----T-----
Callithrix jacchus	TGTGGCCCTATTGTATATCAAGGATTTTC--TT--GCCA--TGTT-----T-----
Mus musculus	GGTGGTCTTTTGTACATCAAGGGTGTTTC--ATTACAG--TCTTAAATCTTTTGGTTAACTTCATT-TATGTATATGGATGTTTGTCTTGAATGTTTGTACATGCACGTGTGTAC
Rattus norvegicus	AGTGGCTCT-TGTACATTAAGGGTGTTTC--ACTTATGG--TTTTAAATATTTTGTATTAACTTTTCAATTTATGTATGTATGTATCTTGTGGAATATATGCACATGCACCGTGTGTAC
Bos taurus	ACTGGCCTTACGGTGTACCAAGGATGTTTCATT--GCCA--TATT-----T-----
Sus scrofa	TGTGGCTTTATTGTGTGTCAGGAATGTTTCACTC--GCCTTTTATT-----T-----
Canis lupus familiaris	-----TTTT-----T-----
Equus caballus	TGTGACCCTGCTGTATCAAGGACAGTTACTT--GCCA--CCTT-----T-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jacchus	-----
Mus musculus	AGGCCCTGGGGCCATTGGCGGCGAGACAAAAGTGCCAGATTCCCTGGAATTGAAGTTACAGAGTAAGCCAACTTGTGGTGCTAGTAACCAACCTGTGCATTTTCAACCCTAAGCAATCC
Rattus norvegicus	ATGCCCGGGGCTGTTGAAGCGCAGACGAAAGTGCCAGATGC--CCTGGGATTGAAGTCACAGAGTAAGCCAACTGTGGTGCTAGGAACCAACCTGTGCTTTTAAACCCTGAGCAGTCT
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----TTATT-----TG---AAGGTAACACTGCAGGT-----CACACTGGGAGGAAG-AGTCATC-----
Pan troglodytes	-----TTATT-----TG---AAGGTCACACTGCAGGT-----CACACTGGGAGGAAG-AGTCATC-----

[illegible]

[illegible]

Pan troglodytes	TGCATCTGGTGACCCCTCAGGAAGCTTCCAGTCTATAGCAGAAAGCAAAGAGGGAGCAGATGTGGCA---	AGAAAGGGAGCAAGAGTGAGGGGAGGGAGGTGGCAGTCTGTTTTTAACAAT
Gorilla gorilla	TGCATCTGGTGACCCCTCAGGAAGCTTCCAGTCTATAGCAGAAAGCAAAGAGGGAGCAGATGTGGCA---	AGAAAGGGAGCAAGAGTGAGGGGAGGGAGG-----TCTGTTTTTAACAAT
Pongo abelii	TGTACTCTGGTGACCCCTCAGGAAGCTTCCAGTCTATAGCAGAAAGCAAAGAGGGAGCAGATGTGGCA---	AGAAAGGGAGCAAGAGTGAGGGGAGGGAGGTGTAGTCTGTTTTTAACAAT
Macaca mulatta	TGCGTCTGGTGACCCCTCAGGAAGCTTCCAGTCTATAGCAGAAAGCAAAGGGGAGCAGATGTGGCA---	AGAAAGGGAGCAAGAGTGAGGGGAGGGAGGTGTAGTCTGTTTTTAACAAT
Callithrix jacchus	TGCATCTGGTGACCCCTCAGGAAGCTTCCAATCATAGCAGAAAGCAAAGTGGAGCAGATGTGGCA---	AGAGGGAGCAAGAGTGAGGGAGGGAGGTGCCAGTCTCTTTTAACAGT
Mus musculus	-----ACGAGCAGGGAGGCATGGAG-----	-----GTGG-----
Rattus norvegicus	-----AGACAGGGAGGTACATGT-----	-----CTGG-----
Bos taurus	-----	-----
Sus scrofa	-----	-----
Canis lupus familiaris	-----	-----
Equus caballus	-----	-----
Homo sapiens	CAGAT-----CTCGAGGA--AGCTAATAGAACAAAG--	-----CCACTCATTACCCCAAGAATGGCACAAGCCATTTCATAAGGGATCC
Pan troglodytes	CAGAT-----CTCGAGGA--AGCTAATAGAACAAAG--	-----CCACTCATTACCCCAAGAATGGCACAAGCCATTTCATAAGGGATCC
Gorilla gorilla	CAGAT-----CTCGAGGA--AGCTAATAGAACAAAG--	-----CCACTCATTGCCCAAGAATGGCACAAGCCGTTTCATAAGGGATCC
Pongo abelii	CAGAT-----CTTGAGGA--AGCTAATAGAACAAAG--	-----CCACTCATTACCCCAAGAATGGCACAAGCCATTTCATAAGGGATCC
Macaca mulatta	CAGAT-----CTCGAGGA--AACTAATAGAACAAAG--	-----CCACTCATTACTCCAAGAATGGCACCAGGCCATTTCATAAGGGATCC
Callithrix jacchus	CAGAT-----CTGGAGGA--AACTAATATAGCAAAAG--	-----CCACTCATTACCCCAAGGATGGCACAACCATTTCATAAGGGGTCC
Mus musculus	-----AGCA-----GAGAGCTGATATCCGATCCACAA--GCACAGGACAGAGACT--GACAGTGAGAAAGGCCA--	-----AGCAGTAGCTGAGAGCTTATATCTGATCCACAA--GCATGGGACAGAGATT--GACCATGGGAATGGTA--
Rattus norvegicus	-----	-----
Bos taurus	-----	-----
Sus scrofa	-----	-----
Canis lupus familiaris	-----	-----
Equus caballus	-----	-----
Homo sapiens	ACTCTCATGACCCAAACACATCCCACAGGCCCCACCTTCCAACACTGGGGATCACATTTTCAGCATGAGATTGGAG-----	GGG-----ACA--A-AC
Pan troglodytes	ACTCTCATGACCCAAACACATCCCACAGGCCCCACCTTCCAACACTGGGGATCACATTTTCAGCATGAGATTGGAG-----	GGG-----ACA--A-AC
Gorilla gorilla	ACTCTCATGACCCAAACACATCCCACAGGCCCCACCTTCCAACACTGGGGATCACATTTTCAGCATGAGATTGGAG-----	GGG-----ACA--A-AC
Pongo abelii	ACTCTCATGACCCAAACACATCCCACAGGCCCCACCTTCCAACACTGGGGATCACATTTTCAGCATGAGATTGGAG-----	GGG-----ACA--A-AC
Macaca mulatta	ACTCTCATGACCCAAACACATCCCACAGGCCCCACCTTCCAACACTGGGGATCACATTTTCAGCATGAGATTGGAG-----	GGG-----ACA--A-AC
Callithrix jacchus	ACGCCCATGACCCAAACACATCCCACAGGCCCCACCTTCCAACACTGGGGATCACATTTTCAGCATGAGATTGGAG-----	GGG-----ACA--AAAT
Mus musculus	-----TGCCCTCTGAAATCTTTAAAGCCACCCCCAGTGGCACACC-TC	-----TGAGCTTTTGAATCTTTAAAGCCCACTGTGAGTGATGCACC-GC
Rattus norvegicus	-----	-----A--A-AG
Bos taurus	-----	-----A--A-AG
Sus scrofa	-----	-----C--A-TT
Canis lupus familiaris	-----	-----A--A-AG
Equus caballus	-----	-----
Homo sapiens	CTTCAAACATATTTACCTTACCAATTCATAGCAAAAGC-AA-----AGCCCAA-----	-----AGCCCAA-----
Pan troglodytes	CTTCAAACATATTTACCTTACCAATTCATAGCAAAAGC-AA-----AGCCCAA-----	-----AGCCCAA-----
Gorilla gorilla	CTTCAAACATATTTACCTTACCAATTCACAGCAAAAGC-AA-----AGCCCAA-----	-----AGCCCAA-----
Pongo abelii	CTTCAAACATATTTACCTTACCAATTCATAGCAAAAGC-AA-----AGCCCAA-----	-----AGCCCAA-----
Macaca mulatta	ATTCAAACATATTTAC-AACTGTTCTATAGCAAAAGC-AA-----AGCCCAA-----	-----AGCCCAA-----
Callithrix jacchus	ATTCAAACATATTTTACTTACCAATTCATAGCAAAAGC-AA-----AAACCAA-----	-----AAACCAA-----
Mus musculus	CTCCGAAATCCTTCTCAAAACAGTTC---CACACAGCTAA-----GGACCAAGCAATTGGAATACATGAGCTCATGGGGCCCATTCCTCATTCAAAGCACCACAGGGGGAGTT	-----CCCTAG-----
Rattus norvegicus	CATTGTGTAC-TATCTTAAACATTTATAGCAAAAG-A-AAA-----CCCTAC-----	-----CCCTAC-----
Bos taurus	CATCATGTTAC-TAATGAAACATTTATAGCAAGA-A-AGG-----CCCTAC-----	-----CCCTAC-----
Sus scrofa	-----TTTAACTTAAATCGCAAAAAA-AA-ACAAAAAAACAAAAAA-AAA-----	-----
Canis lupus familiaris	TATCTCTGTAG-TAATTTACCATTTCATAGCAAGAGA-AG-----CATCTAG-----	-----CATCTAG-----
Equus caballus	-----	-----
Homo sapiens	-----ATGTGTG---TTTGC-AAAGCCTT-CCAGACACAA-----CAAAGAGAATTAATTCATAATTCOCGATTAACTTAGTCGGCCCTG--AGATTT---TTTTCC--	-----
Pan troglodytes	-----ATGTGTG---TTTGC-AAAGCCTT-CCAGACACAA-----CAAAGAGAATTAATTCATAATTCOCGATTAACTTAGTCGGCCCTG--AGATTT---TTTTCC--	-----
Gorilla gorilla	-----ATGTGTG---TTTGC-AAAGCCTT-CCAGACACAA-----CAAAGAGAATTAATTCATAATTCOCGATTAACTTAGTCGGCCCTG--AGATTT---TTTTCC--	-----
Pongo abelii	-----ATGTGTG---TTTGC-AAAGCCTT-CCAGACACAA-----CAAAGAGAATTAATTCATAATTCOCGATTAACTTAGTCGGCCCTG--AGATTT---TTTTCC--	-----
Macaca mulatta	-----ATGTGTG---TTTGC-AAAGCCTT-CCAGACACAA-----CAAAGAGAATTAATTCATAATTCOCGATTAACTTAGTCGGCCCTG--AGATTT---TTTTCC--	-----
Callithrix jacchus	-----ATGTGTG---TTTGC-AAAGCCTT-CCAGACACAA-----CAAAGAGAATTAATTCATAATTCOCGATTAACTTAGTCGGCCCTG--AGATTT---TTTTCC--	-----
Mus musculus	GGGTGGTAACTTACCATGCGATGGCCCTTGA-AAAGCCTGGCTAGACACAG---CCACAGAAGACTGACTCCTAACTCCAAAGTGACTCTCTTT--TTCTG--AGATTGGAATTTTCT--	-----
Rattus norvegicus	GGATGGGTGACTTTCCATGTGTGGCCCTTGAAAGCTCTGGCTAGACACAAACCTGAGAGGACTGACTTGTAACCTCAAAGTGACTCTCTTT--TTCTG--AGATTGGAATTTTCT--	-----
Bos taurus	-----TTGTACA---TTTGC-AAAGCATACAGGCGATAA---CCAAAGAGAATTAATTCATAACTTCAAAGTTAAATTTATTTGGCTCTG--AGTTTT--TA--GTAG	-----
Sus scrofa	-----TTGTGCA---TTTTC-AAACCTGACCAGGCGATAA---CCATAGGGAA---TTCAATAATCCAAAGTTTAACTTATTTGGTCTTCAACAAGTTTT--TT--CTA-	-----
Canis lupus familiaris	-----CATTGCA---TTTGT-AAAGCCTGGCCAGACATAA---CAAAGGGGAATTGACTTGTAAATCCAGTTTGATTATTTGGTGCCA---ATTT---TTTAAAAA	-----
Equus caballus	-----TTTGTCT---TTTGC-AAAGCCTGACCAGGCGATAA---CTAAAGACACTTAATTCATAATTTAAGTTTAAATGATTTTGGTCCTG--AGGTTT---TTTA--A	-----
Homo sapiens	-----	-----CTGAATTGTTATACCTAGATTAACATATTTTAAACGTTTG
Pan troglodytes	-----	-----CCGAATTGTTATACCTAGATTAACATATTTTAAACGTTTG
Gorilla gorilla	-----	-----CCGAATTGTTATACCTAGATTAACATATTTTAAACGTTTG
Pongo abelii	-----	-----CTGAATTGTTATACCTAGATTAACATATTTTAAACGTTTG
Macaca mulatta	-----	-----CCCGAATGTTATACCTAGATTAACATATTTTAAACGTTTG
Callithrix jacchus	-----	-----CCTGAATTGTTATACCTAGATTAACATATTTTAAATGTTTG
Mus musculus	-----	-----C-----CGTCTACCCATTTTAA-GTACTCGTAAGTGTTTG
Rattus norvegicus	-----	-----TGCTATACCATGTTTGTAGTTCCTTAAGTGTTTG
Bos taurus	ATAGTAAAACCTATATTAAGTTGT---ATTATATG-----TTAGTATATTAAGCATATTTATGCAAG--TTATATGCTAAACCATATTAAGTTCATTTAAATGTTTG	-----
Sus scrofa	ATGTTTAAACCTATATTAATTTT---ACCTATA-----ATGTTATATTAAGAGTATTTAT--ATG--TTATATTTTAACTGTTTCAAGTGGTTTAAATGTTTG	-----
Canis lupus familiaris	ATGTGTAACCTACTAAATATATATAGCCTATATTACTTTATATTTATCTATATATTAAGAGTATGATGTAA--TTAAATGTTTAACTATAT--TGTTTAAATGTTTG	-----
Equus caballus	ATTTTATATCTTCTAATTAAGTTGAATACCTATATTA-----TTATGTCTATATTAAGTATATTTATATAA--TTATATGTTATGCTATATTAATGTTTAAATGTTTG	-----
Homo sapiens	AGTGATTCCTCATAGTTTT-GTT-----	-----
Pan troglodytes	AGTGATTCCTCATAGTTTT-GTT-----	-----
Gorilla gorilla	AGTGATTCCTCATAGTTTT-GTT-----	-----
Pongo abelii	AGTGATTCCTCATAGTTTT-GTT-----	-----
Macaca mulatta	AGTGATTCCTAATTAGTTTT-GTT-----	-----
Callithrix jacchus	AGTGATTCCTAATTAGTTTT-GTT-----	-----
Mus musculus	AATG-ATTCTGTTTGTGTTTT-GTTGTGCTCTCTTTTGGAGACATGATTTCTCTATATAACCCAGATTGACTCAAACCTTGCAGTCTCTGCTCAACTTCACAAATGCTGGGAGTGC	-----
Rattus norvegicus	AATGAGTCTGTTTGTGTTTT-GTTGTGCTCTCTTTT-GAGACATGATGTCTCTATGTAGCCACAGATTCACTCAAACCTTGCATCTCTGCTCAACTTCACAAATGCTGGGAGTGC	-----
Bos taurus	AATGATT-CTAATTGGAATT--TT-----	-----
Sus scrofa	AGTGATTTCTGATTGGAATT-TTT-----	-----
Canis lupus familiaris	AGTGATTTCTAAGTGGATTTTTT-----	-----
Equus caballus	AGTGATTTCTA-----	-----
Homo sapiens	-----	-----
Pan troglodytes	-----	-----
Gorilla gorilla	-----	-----
Pongo abelii	-----	-----
Macaca mulatta	-----	-----
Callithrix jacchus	-----	-----
Mus musculus	TTCCAGGGGCTGGTGTACAGGGAGGGAGCACCA----TACCAGTTTTATACGGTACTGGAAATTGAATGCCAGGCTTCTAAAGGCTTCTTCTAGGCACGCACTTCTGCAAAAGTGAGGTG	-----
Rattus norvegicus	TTCCAGTGTGGGGAATTACAGGGATGTATTACCAATGATTGCTCAATTTGTATGGTGCTG-AAATGGACTCTAGGCTGCCTAAAGGCTTCTTCCAGGCAAGCACTCTGCTAACTGAGAG	-----
Bos taurus	-----	-----
Sus scrofa	-----	-----
Canis lupus familiaris	-----	-----
Equus caballus	-----	-----
Homo sapiens	-----AATCAAAGAGGTAAAGCAACTTAATATTGAGTAGTA-----TTGTGAAGGAT	-----
Pan troglodytes	-----AATCAAAGAGGTAAAGCAACTTAATATTGAGTAGTA-----TTGTGAAGGAT	-----
Gorilla gorilla	-----AATCAAAGAGGTAAAGCAACTTAATATTGAGTAGTA-----TTGTGAAGGAT	-----
Pongo abelii	-----AATCAAAGAGGTAAAGCAACTTAATATTGAGTAGTA-----TTGTGAAGGAT	-----
Macaca mulatta	-----AATCAAAGAGGTAAAGCAACTTAATACTGAGTAGTA-----TTGTGAAGAT	-----
Callithrix jacchus	-----CAACAAAGAGTAAAGCAACTTCATATTGAGTAGTA-----TTGTGAAGGAT	-----
Mus musculus	CGTTCCTCCGAACCTCTGGGCTTTTTTCTTAAGAAAGTATGGTGACTCTGCTCTGTTTAGGATGCTTTTAAATCTG-AGGAT-----	-----

Homo norvegicus	CATCCCTCGAAC	-----CTCTTCTTCAAAGAAAGTGAGTGACACCTCTGTTTGGGTTGCTCTTAAGATTCAG-AGGAC	
Bos taurus	-----	-----AATCAAGAAGTAATGAGCACTCAATATTTGCTAGTAGACTTAATTAAGATTTGGGGGGATTTTTTTTTTGGCTTCATGGCAAT	
Sus scrofa	-----	-----AATCAAGAAGTAAGGACCACTCATATTTGTTTGTAGTAGATTAATTAATTTGGAAGAT	
Canis lupus familiaris	-----	-----AATTAAGAAGATCGACAACCTGATATCGATTGTAGATTAATCAAGTTGTGAAGAC	
Equus caballus	-----	-----AATTAAGAAGTAAGGACCACTCAATATCTGTTTGTAGTAGATTAATTAATTTGAAGGAT	
Homo sapiens	-----	-----TATCATAT	-----TTTTGAATAAGTGCAATTAAC
Pan troglodytes	-----	-----TATCATAT	-----TTTGAATGAGTGCAATTAAC
Gorilla gorilla	-----	-----TATCATAT	-----TTTTGAATAAGTGCAATTAAC
Pongo abelii	-----	-----TATCATAT	-----TTTTGAATAAGTGCAATTAAC
Macaca mulatta	-----	-----TGTCCTAT	-----TTTTGAATAAGTGCAATTAAC
Callithrix jacchus	-----	-----TGTCATAT	-----TTTTGAATAAGTGCAATTAAC
Mus musculus	-----	-----TGTCATCTCTTCTTCTTTTACTAACTGTACGTTTCTTAAATAGTGCAATTAAC	
Rattus norvegicus	-----	-----GGTCATTCTTCTATCTCTTCTTCACTGTGACGTTCTTAAATAGGCAATTAAC	
Bos taurus	GCTGTGGGCTGGCAGTGAAAGCACCAGTCTCAACCCTGACCGCAGAAATTTCCAAAGAT	-----TCTCGTAT	-----TTTCTAATAAGTGCAATTAAC
Sus scrofa	-----	-----TGCCATGT	-----TTTGGAAAAAGTGCAATTAAC
Canis lupus familiaris	-----	-----TGTCATT	-----TTTTTAATAAGTGCAATTAAC
Equus caballus	-----	-----TGTCATAT	-----TTTTGAATAAGTGCAATTAAC
Homo sapiens	GGTCTTCCT-AC		
Pan troglodytes	GGTCTTCCT-AC		
Gorilla gorilla	GGTCTTCCT-AC		
Pongo abelii	GGTCTTCCT-AC		
Macaca mulatta	AGTCTTCCT-GC		
Callithrix jacchus	GGTCTTCCT-AG		
Mus musculus	A-TTTGT-AC		
Rattus norvegicus	C-TTTGT-AC		
Bos taurus	AGTGTTCAC-CCTGGGATTTGTCATTGTTGAGTCTATAAGTCACTGTCTGCTTCCCATGGACGTAACTTGCACAGGTCCTTTGTCCACAGGATTTCCACAGGCAAGAATCTGAGTGTAG		
Sus scrofa	AGTCTTCAC-TT		
Canis lupus familiaris	AGTCTTCATCAT		
Equus caballus	AGTCTTCATCAT		
Homo sapiens	-----TGAATATTAATGAGCAATAAATCTGTTCT-TATTGTTTATGTGTAAACAGAGCAGCTTGCTTGGCTGGAGCTAAG-AGCCAGACACACCA		
Pan troglodytes	-----TGAATATTAATGAGCAATAAATCTGTTCT-TATTGTTTATGTGTAAACAGAGCAGCTTGCTTGGCTGGAGCTAAG-AGCCAGACACACCA		
Gorilla gorilla	-----TGAATATTAATGAGCAATAAATCTGTTCT-TATTGTTTATGTGTAAACAGAGCAGCTTGCTTGGCTGGAGCTAAG-AGCCAGACACACCA		
Pongo abelii	-----TGAATATTAATGAGCAATAAATCTGTTCT-TATTGTTTATGTGTAAACAGAGCAGCTTGCTTGGCTGGAGCTAAG-AGCCAGACACACCA		
Macaca mulatta	-----TGAATATTAATGAGCAATAAATCTGTTCT-TATTGTTTATGTGTAAACAGAGCAGCTTGCTTGGCTGGAGCTAAG-AGCCAGACACACCA		
Callithrix jacchus	-----TGAATATTAATGAGCAATAAATCTGTTCT-TATTGTTTATGTGTAAACAGAGCAGCTTGCTTGGCTGGAGCTAAG-AGCCAGACACACCA		
Mus musculus	-----TAGGTTTA-----GCCATAAAAGATGCTAT-TCATGTTTGTGTGTAAACAGAGCAGCTTGACTCCGTAATTTAAG-ACACATACATCTTA		
Rattus norvegicus	-----TAGGTTTA-----GCCATAAAAGATGCTAT-TCATGTTT-GTATAACAGAGCAGCTTGACTTGGCTGGAGCTAAG-ACACATGTATATTA		
Bos taurus	TGCGCATTTCTCTCTCCAGGACATTTGATATATTC-CTGATAAAAAATACATATTACTATATTTAT-ACAGGGCAGCTTGCTTGGCTGGAGCAGAG-ACACCCAGACACACCA		
Sus scrofa	-----TGATATCATTTAGTGTAAAAATACACT-AAATATATTTAT-ACAGGACAGCAGCTTGCTTGGCTGGAGCTAAGAGAACACCCAGACATCGCC		
Canis lupus familiaris	-----TGATATTTATTCAGCCATAAAATATACCT-TATTATTTATGTGTAAACAGGACGTTTGCTTGGCTGGAGCTAAGAGAACACCCAGACACACCA		
Equus caballus	-----TGATATTTATTCAGCCATAAAATATACCT-TATTATTTATGTGTAAACAGGACGTTTGCTTGGCTGGAGCTAAG-AGCCAGACACACCA		
Homo sapiens	CTGTGTGGAGGTGGGTGATGTCCTTCTGTGCTAAAAGTGTA-ATAAATAGCTCTCCACTCTCGGGGAACACTCGGGAACACATCAACAGGTATTATGCA-C-ATCTCTGATT		
Pan troglodytes	CTGTGTGGAGGTGGGTGATGTCCTTCTGTGCTAAAAGTGTA-ATAAATAGCTCTCCACTCTCGGGGAACACTCGGGAACACATCAACAGGTATTATGCA-C-ATCTCTGATT		
Gorilla gorilla	CTGTGTGGAGGTGGGTGATGTCCTTCTGTGCTAAAAGTGTA-ATAAATAGCTCTCCACTCTCGGGGAACACTCGGGAACACATCAACAGGTATTATGCA-C-ATCTCTGATT		
Pongo abelii	CTGTGTGGAGGTGGGTGATGTCCTTCTGTGCTAAAAGTGTA-ATAAATAGCTCTCCACTCTCGGGGAACACTCGGGAACACATCAACAGGTATTATGCA-C-ATCTCTGATT		
Macaca mulatta	CTGTGTGGAGGTGGGTGATGTCCTTCTGTGCTAAAAGTGTA-ATAAATAGCTCTCCACTCTCGGGGAACACTCGGGAACACATCAACAGGTATTATGCA-C-ATCTCTGATT		
Callithrix jacchus	TTGTGTGGAGGTGGGTGATGTCCTTCTGTGCTAAAAGTGTA-AAAAATAAATCTCACTCTTGCAGAACACCCGGGAACACATCAACAGGTATTATGCA-C-ATCTCTGATT		
Mus musculus	TGTTATAGAGTGTGTGACATCTTCTGTGCTGGAAGTGTA-GTACTT-GGCTCTTGTTCTTGAAAAACATTTGGAACACATGAACAGGTATTAACTA-C-ATCTCTGATT		
Rattus norvegicus	CTGTATAGAGTGTGTGACATCTTCTGTGCTGGAAGTGTA-GTACTT-GGCTCTTGTTCTTGGAAGACATTTGGAACACATTAACAGGTATTAACTA-C-ATCTCTGATT		
Bos taurus	TTGTGTGAGTGTGGGTGATGTCCTTCTGTGCTGGAAGTGTA-ATAAATAAATCTCACTCTTGCAGAACACCCGGGAACACATCAACAGGTATTATGCA-C-ATCTCTGATT		
Sus scrofa	TTGTGTGAGTGTGGGTGATGTCCTTCTGTGCTGGAAGTGTA-ATAAATAAATCTCACTCTTGCAGAACACCCGGGAACACATCAACAGGTATTATGCA-C-ATCTCTGATT		
Canis lupus familiaris	TTGTGTGAGTGTGGGTGATGTCCTTCTGTGCTGGAAGTGTA-ATAAATAAATCTCACTCTTGCAGAACACCCGGGAACACATCAACAGGTATTATGCA-C-ATCTCTGATT		
Equus caballus	TTGTGTGAGTGTGGGTGATGTCCTTCTGTGCTGGAAGTGTA-ATAAATAAATCTCACTCTTGCAGAACACCCGGGAACACATCAACAGGTATTATGCA-C-ATCTCTGATT		
Homo sapiens	CATCTTTT-----A-ATGGCAAAGACCTTGAATCTGCTCTTAAGTGGGGTCAGACATAATCAACAGGTTGATGAGCATATGGTGGGACACAGATTTCAATGGAGTCCCAAGAGA		
Pan troglodytes	CATCTTTT-----A-ATGGCAAAGACCTTGAATCTGCTCTTAAGTGGGGTCAGACATAATCAACAGGTTGATGAGCATATGGTGGGACACAGATTTCAATGGAGTCCCAAGAGA		
Gorilla gorilla	CATCTTTT-----A-ATGGCAAAGACCTTGAATCTGCTCTTAAGTGGGGTCAGACATAATCAACAGGTTGATGAGCATATGGTGGGACACAGATTTCAATGGAGTCCCAAGAGA		
Pongo abelii	CATCTTTT-----A-ATGGCAAAGACCTTGAATCTGCTCTTAAGTGGGGTCAGACATAATCAACAGGTTGATGAGCATATGGTGGGACACAGATTTCAATGGAGTCCCAAGAGA		
Macaca mulatta	CATCTTTT-----A-ATGGCAAAGACCTTGAATCTGCTCTTAAGTGGGGTCAGACATAATCAACAGGTTGATGAGCATATGGTGGGACACAGATTTCAATGGAGTCCCAAGAGA		
Callithrix jacchus	CATCTTTT-----A-ATGGCAAAGACCTTGAATCTGCTCTTAAGTGGGGTCAGACATAATCAACAGGTTGATGAGCATATGGTGGGACACAGATTTCAATGGAGTCCCAAGAGA		
Mus musculus	CATCTTTT-----GA-ATGGTGAAGGCTTGAATCTGCTCTTAAGTGGGGTCAGACATAATCAACAGGTTGATGAGCATATGGTGGGACACAGATTTCAATGGAGTCCCAAGAGA		
Rattus norvegicus	CATCTTTT-----GA-ATGGTGAAGGCTTGAATCTGCTCTTAAGTGGGGTCAGACATAATCAACAGGTTGATGAGCATATGGTGGGACACAGATTTCAATGGAGTCCCAAGAGA		
Bos taurus	CATCTTTT-----ATGTGAGAAAGCTTTGAGTCTGCTCACTGACGGGCTT-----CATTAACCTGGCATGCTGATGAGTATATGGTGGGACACAGATTTCAATGGAGTCCCAAGAGA		
Sus scrofa	CATCTTTT-----ATGTGAGAAAGCTTTGAGTCTGCTCA		

Homo sapiens GGTGTGGTTAGAAGCTGAGATA-----CGACCTGCCACC-TGGGTCAAGGCTTAAAGA-----CAAGAAGTCTTGAGTCTTGCCACTGAGTA---GG-CCAGGGTCATTTTGTC
Pan troglodytes GGTGTGGTTAGAAGCTGAGATA-----CGACCTGCCACC-TGGGTCAAGGCTTAAAGA-----CAAGAAGTCTTGAGTCTTGCCACTGAGTA---GG-CCAGGGTCATTTTGTC
Gorilla gorilla GGTGTGGTTAGAAGCTGAGATA-----CGACCTGCCACC-TGGGTCAAGGCTTAAAGA-----CAAGAAGTCTTGAGTCTTGCCACTGAGTA---GG-CCAGGGTCATTTTGTC
Pongo abelii GGTGTGGTTAGAAGCTGAGATA-----CGACCTGCCACC-TGGGTCAAGGCTTAAAGA-----CAAGAAGTCTTGAGTCTTGCCACTGAGTA---GG-CCAGGGTCATTTTGTC
Macaca mulatta GGTGTGGTTAGAAGCTGAGATA-----CAACCTGCCACC-TGGGTCAAGGCTTAAAGA-----CAAGAAGTCTTGAGTCTTGCCACTGAGTA---GG-CCAGGGTCATTTTGTC
Callithrix jacchus GGTGTGGTTAGAAGCTGAGATA-----CAACCTGCCACC-TGGGTCAAGGCTTAAAGA-----CAAGAAGTCTTGAGTCTTGCCACTGAGTA---GG-CCAGGGTCATTTTGTC
Mus musculus -----ACCTTACGTACGCTGCAGGACCGCTGACGCTTGC-T-----TTCAGGCTTGAAGACC-----ACAGGAAGTCTTGAGTCTTGCCACTGGTA---GG-CCAGGGTCATTTTGTC
Rattus norvegicus -----ACCTTACCTA-----CCATCAGCTTGC-T-----TTCAGGCTTGAAGACC-----ACAGGAAGTCTTGAGTCTTGCCACTGGTA---GG-CCAGGGTCATTTTGTC
Bos taurus GTGCTCTGTATAAAGCTGAGATA-----CTAAC-----CTGGGGACGCTTGAGACCTC-ACGGAAGGGCCAAAGTCTTGCCACTGAGCA---G-CAAGGTTGATTGGTC
Sus scrofa GTGCTCTGTC---CTGAGATA-----CTAACGTCTCAGCTTGGGTCAAGTCTTGAGACCTA-ACAGAAAGAGCCGAGTCTTGCCACTGGCA---G-CAAGGTTGATTGGTC
Canis lupus familiaris GGACCGGTATAAAGCTGAGATA-----GGAACCACTGCTGGTGGGTCAAGTCTTGAGACATA-CTGGAAGTCTGAGTCTTGCCACTGGCA---A-GTAAGGTTATTGGTC
Equus caballus AC-----CAGGCAC-----CCAGGTCTAGAGACGTA-ACAGGAGGTTCTGAGTCTTGCCACTGGCA---A-CAAGGTTATTGGTC

Homo sapiens CAGAAAACCTTTGTGACTG-TCTTTGAGTGACCTAGCTGGGAC-----CCATTCTGTTGGGTT-----CTAAGGTTAGAAGCTCATCCAGGATATTTTCAATATTAAAGTCAGTGCATAGC
Pan troglodytes CAGAAAACCTTTGTGACTG-TCTTTGAGTGACCTAGCTGGGAC-----CCATTCTGTTGGGTT-----CTAAGGTTAGAAGCTCATCCAGGATATTTTCAATATTAAAGTCAGTGCATAGC
Gorilla gorilla CAGAAAACCTTTGTGACTG-TCTTTGAGTGACCTAGCTGGGAC-----CCATTCTGTTGGGTT-----CTAAGGTTAGAAGCTCATCCAGGATATTTTCAATATTAAAGTCAGTGCATAGC
Pongo abelii CAGAAAACCTTTGTGACTG-TCTTTGAGTGACCTAGCTGGGAC-----CCATTCTGTTGGGTT-----CTAAGGTTAGAAGCTCATCCAGGATATTTTCAATATTAAAGTCAGTGCATAGC
Macaca mulatta CAGAAAACCTTTGTGACTG-TCTTTGAGTGACCTAGCTGGGAC-----CCATTCTGTTGGGTT-----CTAAGGTTAGAAGCTCATCCAGGATATTTTCAATATTAAAGTCAGTGCATAGC
Callithrix jacchus CAGAAAACCTTTGTGACTG-TCTTTGAGTGACCTAGCTGGGAC-----CCATTCTGTTGGGTT-----CTAAGGTTAGAAGCTCATCCAGGATATTTTCAATATTAAAGTCAGTGCATAGC
Mus musculus CAGAGAGCTTTGAGAC-C-TCTTGA--GACCAAGTCCAGGA--
Rattus norvegicus CACAGACTTTGAG-C-G-CTTGA--GACCAAGTCCAGGA--
Bos taurus CAG-----GAC-----CTGTTAACTGGTGAAGT-----AGAAGTCTAGAAGCTCACTGGGATATTTTCAATTTGAAGTCAGGCGCAGTC
Sus scrofa CAGAAGCTCTGATGCTGCTGTGGAATGACCAAG-----GCC-----CCATCTCAGTGGTGGT-----ATCAGTTAGAAGCACTCAGGAGTCTTCAATCTTAAGGCACTCTTATT
Canis lupus familiaris CAGAAGCTTTGGGACGCTGTGGAAGTGGCCAG-----GCC-----CAGCTGCTGTAGATATAATAAGATCAGGACTCACCCAGGATCTCTGAGTCTTAAGCTGAGCTGCTGCTG
Equus caballus CAGAAGACT--GAGACTGCTCTGGAGTGACCTG-----ACCCAGGTCCATTCTCAGTGGTGGT-----GTAAGTTTAGAAGCTC-CTCAGGATAGTCTCCATCTTAAGGCACTGCCCCATC

Homo sapiens TGACCACTAACAAATT-GGTGCTGTGAGAGTCAGAGTGGGTCAATTCTTAGGACATGGGCGTGGCACTGTTAGAGGACTGGTGCAAGATAATGAGTGTGGATGAGCAGAGTCACTGA
Pan troglodytes TGACCACTAACAAATT-GGTGCTGTGAGAGTCAGAGTGGGTCAATTCTTAGGACATGGGCGTGGCACTGTTAGAGGACTGGTGCAAGATAATGAGTGTGGATGAGCAGAGTCACTGA
Gorilla gorilla TGACCACTAACAAATT-GGTGCTGTGAGAGTCAGAGTGGGTCAATTCTTAGGACATGGGCGTGGCACTGTTAGAGGACTGGTGCAAGATAATGAGTGTGGATGAGCAGAGTCACTGA
Pongo abelii TGACCACTAACAAATT-GGTGCTGTGAGAGTCAGAGTGGGTCAATTCTTAGGACATGGGCGTGGCACTGTTAGAGGACTGGTGCAAGATAATGAGTGTGGATGAGCAGAGTCACTGA
Macaca mulatta TGCCCACTAACAAATT-GGTGCTGTGAGAGTCAGAGCGGTGTCAGTCTTTGGGACATGGGCGTGGCGCTGTTAGAGGACTGGTGCAAGATAATGAGTGTGGATGAGCAGAGTCACTGA
Callithrix jacchus A--ACCACTAACAGATT-GGTACCGGTGAGAGTCAGAGTGGGTCAATTCTTTGGGACATGGGCGTGGCACTGGCACTTTAGAGGACTGGTGCAAGATAATGAGTGTGGATGAGCAGAGTCACTGA
Mus musculus -----CATATCTGGGACATGGCGGTGGCCCTGCTGGAGAGTGGTGTAGATCATGGGTGTGAGGTGTGAGGCTCCAGAGTCACTGCTG
Rattus norvegicus -----CACCCTGGGACATGGCAGTGGCCCTGCTGGAGAGTGGTGCAAGATCATGGGTGTGAGGTGTGAGGCTCCGCTG
Bos taurus TGTCOCATAAGCTAATC-AGTAGCCATAGAGTTCACGACAGTCAAGTATCCAG--CAATGGGCGTGGCCCTGTTGGAGGACTGGTGAGGATTTCTGAGTGTGGATGATCAGAAATCACTGA
Sus scrofa GGCCCCACAACTGATCCGGTACCAC--ACTTAGAGCGAGTCAATCTTGGGACATGGGCGGGGCACTGTTGGAGGACTGGTGAGGATAGATGAGTGTGGATGAGCAGAGTCACTGA
Canis lupus familiaris CACACACAAACTATTG-GGTGGCCAGAGAGTATAGGTTGAGTGAATAATT--GAGACTGGGCGTGGCGCTGTTGGAGGACTGGTGCAAGATAATGAGTGTGGATGAGCAGAGTCACTGA
Equus caballus TGCA-----CTAATT-AGTAGCCATAGAGTCAGAGCGAGTAAATTTTCAGGAGCTGTCGGCGTGGCACTGCTGGAGGACTGGTGCAAGATAATGAGGTTGGATGATCAGAAATCGCTGA

Homo sapiens TGGTTACGGGATACCGCGCGAATTTGAGAGGCGTGAGTTTCAGGAGGCTCTTCAGGAGACTTTAAAGCTCTTGCGGAGGTATAGACTGCTTGCGAAGATATTTCCGGAAGCAGGAGAATG
Pan troglodytes TGGTTACGGGATACCGCGCGAATTTGAGAGGCGTGAGTTTCAGGAGGCTCTTCAGGAGGCTCTTCAGGAGGTATAGACTGCTTGCGAAGATATTTCCGGAAGCAGGAGAATG
Gorilla gorilla TGGTTACGGGATACCGCGCGAATTTGAGAGGCGTGAGTTTCAGGAGGCTCTTCAGGAGACTTTAAAGCTCTTGCGGAGGTATAGACTGCTTGCGAAGATATTTCCGGAAGCAGGAGAATG
Pongo abelii TGGTTACGGGATACCGCGCGAATTTGAGAGGCGTGAGTTTCAGGAGGCTCTTCAGGAGGCTTTAAAGCTCTTGCGGAGGTATAGACTGCTTGCGAAGATATTTCCGGAAGCAGGAGAATG
Macaca mulatta TGGTTACGGGATACCGCGTGGAATGAGGAGGCGTGAGTTTCAGGAGGCTCTTCAGGAGACTTTAAAGCTCTTGCGGAGTATAGACTGCTTGCGAAGATATTTCCGGAAGCAGGAGAATG
Callithrix jacchus TGGTTACAGGATACCCGTGGAATGAGGAGGCTGAGTTTCAGGAGGCTCTTCAGGAGACTTTAAAGCTCTTGCGGAGGTATAGACTGCTTGCGAAGATATTTCCGGAAGCAGGAGAATG
Mus musculus TGGTGGTTGACATTCGGGTGGAATGTTGGTGAACCTGAGATGCTGAGAGCTCTTCAGGAGGCTCTGAGTGTGTCGCGAGCTACCGGCTACTAGGCAAGATATTTCCGGAAGCAGGACA
Rattus norvegicus TGGTGAATTTGACATTCGTGAACCTGTTGAGCTGTGAGGCTGTGAGGCTCTTCAGGAGGCGCTGAGTGTGTCGCGAGCTACCGGCTACTGAGGCAAAATCTCAGGAAGCAAGACA
Bos taurus TGGTTATGGGATCCCAAGTGGAATGCTGAGTGAAGTGAATGAGTTTCAGGAGGCTCTTCAGGAGACTTTAAAGCTCTTGCGGAGGTATAGACTGCTTGCGAAGATATTTCCGGAAGCAGGAGAATG
Sus scrofa TGGTTATGGGATACCCGTGGAATGCTGATGAGGCTGAGTTTCAGGAGGCTCTTCAGGAGGCTTTAAAGCTCTTGCGGAGGTACAGACTGCTTGCGAAGATATTTCCGGAAGCAGGAGAATG
Canis lupus familiaris TGGTTATGGGATACCCGTGGAATGCTGATGAGGCTGAGTTTCAGGAGGCTCTTCAGGAGGACTTTAAAGCTCTTGCGGAGGTATAGACTGCTTGCGAAGATATTTCCGGAAGCAGGAGAATG
Equus caballus TGGTTATGGGATACCCGTGGAATGCTGATGAGGCTGAGTTTCAGGAGGCTCTTCAGGAGGACTTTGAGTGTCTTGCGGAGGTATAGACTGCTTGCGAAGATATTTCCGGAAGCAGGAGAATG

Homo sapiens CCAATGCTGTCTTACTAGAGCTTCTGGAAGATACCTGATGCTCTGCGCATTTCCCAAGTAGGTCAGAGGAAAGGGGGGTGCTTGGAAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT
Pan troglodytes CCAATGCTGTCTTACTAGAGCTTCTGGAAGATACCTGATGCTCTGCGCATTTCCCAAGTAGGTCAGAGGAAAGGGGGGTGCTTGGAAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT
Gorilla gorilla CCAATGCTGTCTTACTAGAGCTTCTGGAAGATACCTGATGCTCTGCGCATTTCCCAAGTAGGTCAGAGGAAAGGGGGGTGCTTGGAAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT
Pongo abelii CCAATGCTGTCTTACTAGAGCTTCTGGAAGATACCTGATGCTCTGCGCATTTCCCAAGTAGGTCAGAGGAAAGGGGGGTGCTTGGAAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT
Macaca mulatta CCAATGCTGTCTTACTAGAGCTTCTGGAAGATACCTGATGCTCTGCGCATTTCCCAAGTAGGTCAGAGGAAAGGGGGGTGCTTGGAAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT
Callithrix jacchus CCAATGCTGTCTTACTAGAGCTTCTGGAAGATACCTGATGCTCTGCGCATTTCCCAAGTAGGTCAGAGGAAAGGGGGGTGCTTGGAAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT
Mus musculus CCAATGCTGTCTTACTAGAGCTTCTGGAAGATACCTGATGCTCTGCGCATTTCCCAAGTAGGTCAGAGGAAAGGGGGGTGCTTGGAAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT
Rattus norvegicus CCAATGCTGTCTTACTAGAGCTTCTGGAAGATACCTGATGCTCTGCGCATTTCCCAAGTAGGTCAGAGGAAAGGGGGGTGCTTGGAAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT
Bos taurus CCAAGCGGCTGCTGTAGAGTGTGCTGAGGAGCCCTGAGGCTCTGTGATGATCCCAAGAGTTCAGGCGCAAGGGGGGATCTGGAAGTGTATCTTCAAGACCCCTAATCAGGACACTGAGT
Sus scrofa CCAAGCTGTGCTGTGTAGAGTGTGCTGAGGAGCCCTGAGGCTCTGTGATGATCCCAAGAGTTCAGGCGCAAGGGGGGTATTTGGAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT
Canis lupus familiaris CCAATGCTGTCTGTGTGAGGCTTATGAGGAGTGTGAGCTGTGCGGTGATCCCAAGTAGGTCAGGGAAGGGGGGTATCTGGAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT
Equus caballus CCAATGCTGTGTGTATTAGAGCTCATGAGGAGCTCATGATGCTCATGAGGTTTCAGGAGGTTTCAGGGAAGGGGGGATCTGGAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT

Homo sapiens TTCTTGAAGAGTTGAACCTGTTTCTAGAAAAAGAGGGGCAGACGGTCTCGGGATGTTTTCAGAGCCCTGGGGCAGGAGGGCGTGTCTCAGCCACAGTGCCTGCATCTCACAGAATTAC
Pan troglodytes TTCTTGAAGAGTTGAACCTGTTTCTAGAAAAAGAGGGGCAGACGGTCTCGGGATGTTTTCAGAGCCCTGGGGCAGGAGGGCGTGTCTCAGCCACAGTGCCTGCATCTCACAGAATTAC
Gorilla gorilla TTCTTGAAGAGTTGAACCTGTTTCTAGAAAAAGAGGGGCAGACGGTCTCGGGATGTTTTCAGAGCCCTGGGGCAGGAGGGCGTGTCTCAGCCACAGTGCCTGCATCTCACAGAATTAC
Pongo abelii TTCTTGAAGAGTTGAACCTGTTTCTAGAAAAAGAGGGGCAGACGGTCTCGGGATGTTTTCAGAGCCCTGGGGCAGGAGGGTGTCTTCCAGCCACAGTGGCTGCATCTCACAGAATTAC
Macaca mulatta TTCTTGAAGAGTTGAACCTCTTTCTAGAAAAAGAGGGGCAGACGGTCTCGGGATGTTTTCAGAGCCCTGGGGCAGGAGGGCATGTCTTCAGCCACAGTGGCTGCATCTCACAGAATTAC
Callithrix jacchus TTCTTGAAGAGTTGAACCTCTTTCTAGAAAAAGAGGGGCAGACAGTCTCCGGTATGTTTTCAGAGCCCTGGGGCAGGAGGGCGTGTCTTCAGCCACAGTGCCTGCATCTCACAGAATTAC
Mus musculus TTCTTGAAGAGTTGAACCTCTTTCTAGAAAAAGAGGGGCAGACAGTCTCCGGTATGTTTTCAGAGCCCTGGGGCAGGAGGGCGTGTCTTCAGCCACAGTGCCTGCATCTCACAGAATTAC
Rattus norvegicus TTCTTGAAGAGTTGAACCTCTTTCTAGAAAAAGAGGGGCAGAGCGTCTCGGGATGTTTTCAGAGCCCTGGGGCAGGAGGGCGTGTCTTCAGCCACAGTGCCTGCATCTCACAGAATTAC
Bos taurus TTCTTGAAGAGTTGAACCTCTTTCTAGAAAAAGAGGGGCAGACGGTCTCAGGATGTTTTCAGAGCCCTGGGGCAGGAGGGCATGTCTGGAAGTGATCTTCAAGACCCCTAATCAGGACACTGAGT
Sus scrofa CCAAGCGGCTGCTGTAGAGTGTGCTGAGGAGCCCTGAGGCTCTGTGATGATCCCAAGAGTTCAGGCGCAAGGGGGGATCTGGAAGTGTATCTTCAAGACCCCTAATCAGGACACTGAGT
Canis lupus familiaris CCAAGTCTGTCTGTGTAGAGTGTGCTGAGGATGTGACGCTGTGCGGTGATCCCAAGTAGGTCAGGGAAGGGGGGTATCTGGAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT
Equus caballus CCAATGCTGTGTATTAGAGCTCATGAGGAGCTCATGATGCTCATGAGGTTTCAGGAGGTTTCAGGGAAGGGGGGATCTGGAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT

Homo sapiens TTCTTGAAGAGTTGAACCTGTTTCTAGAAAAAGAGGGGCAGACGGTCTCGGGATGTTTTCAGAGCCCTGGGGCAGGAGGGCGTGTCTCAGCCACAGTGCCTGCATCTCACAGAATTAC
Pan troglodytes TTCTTGAAGAGTTGAACCTGTTTCTAGAAAAAGAGGGGCAGACGGTCTCGGGATGTTTTCAGAGCCCTGGGGCAGGAGGGCGTGTCTCAGCCACAGTGCCTGCATCTCACAGAATTAC
Gorilla gorilla TTCTTGAAGAGTTGAACCTGTTTCTAGAAAAAGAGGGGCAGACGGTCTCGGGATGTTTTCAGAGCCCTGGGGCAGGAGGGCGTGTCTCAGCCACAGTGCCTGCATCTCACAGAATTAC
Pongo abelii TTCTTGAAGAGTTGAACCTGTTTCTAGAAAAAGAGGGGCAGACGGTCTCGGGATGTTTTCAGAGCCCTGGGGCAGGAGGGCATGTCTTCCAGCCACAGTGGCTGCATCTCACAGAATTAC
Macaca mulatta TTCTTGAAGAGTTGAACCTCTTTCTAGAAAAAGAGGGGCAGACGGTCTCGGGATGTTTTCAGAGCCCTGGGGCAGGAGGGCATGTCTTCAGCCACAGTGGCTGCATCTCACAGAATTAC
Callithrix jacchus TTCTTGAAGAGTTGAACCTCTTTCTAGAAAAAGAGGGGCAGACAGTCTCCGGTATGTTTTCAGAGCCCTGGGGCAGGAGGGCGTGTCTTCAGCCACAGTGCCTGCATCTCACAGAATTAC
Mus musculus TTCTTGAAGAGTTGAACCTCTTTCTAGAAAAAGAGGGGCAGACAGTCTCCGGTATGTTTTCAGAGCCCTGGGGCAGGAGGGCGTGTCTTCAGCCACAGTGCCTGCATCTCACAGAATTAC
Rattus norvegicus TTCTTGAAGAGTTGAACCTCTTTCTAGAAAAAGAGGGGCAGAGCGTCTCAGGATGTTTTCAGAGCCCTGGGGCAGGAGGGCATGTCTGGAAGTGATCTTCAAGACCCCTAATCAGGACACTGAGT
Bos taurus TTCTTGAAGAGTTGAACCTCTTTCTAGAAAAAGAGGGGCAGACGGTCTCAGGATGTTTTCAGAGCCCTGGGGCAGGAGGGCATGTCTGGAAGTGATCTTCAAGACCCCTAATCAGGACACTGAGT
Sus scrofa CCAAGCGGCTGCTGTAGAGTGTGCTGAGGAGCCCTGAGGCTCTGTGATGATCCCAAGAGTTCAGGCGCAAGGGGGGATCTGGAAGTGTATCTTCAAGACCCCTAATCAGGACACTGAGT
Canis lupus familiaris CCAAGTCTGTCTGTGTAGAGTGTGCTGAGGATGTGACGCTGTGCGGTGATCCCAAGTAGGTCAGGGAAGGGGGGTATCTGGAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT
Equus caballus CCAATGCTGTGTATTAGAGCTCATGAGGAGCTCATGATGCTCATGAGGTTTCAGGAGGTTTCAGGGAAGGGGGGATCTGGAAGTGATCTTTAAGACCCCTAATCAGGACACTGAGT

Homo sapiens AGGTCTGGTTTGAACAGGCCACCGAGATAGTCAAGAGTGGCCATTAACAGAGGCAAGAAAGAAAGTGGCTGGCGGAAAGCTTCGCGGGCCCTGCCCTGACCTCATGCACATAGTGC
Pan troglodytes AGGTCTGGTTTGAACAGGCCACCGAGATAGTCAAGAGTGGCCATTAACAGAGGCAAGAAAGAAAGTGGCTGGCGGAAAGCTTCGCGGGCCCTGCCCTGACCTCATGCACATAGTGC
Gorilla gorilla AGGTCTGGTTTGAACAGGCCACCGAGATAGTCAAGAGTGGCCATTAACAGAGGCAAGAAAGAAAGTGGCTGGCGGAAAGCTTCGCGGGCCCTGCCCTGACCTCATGCACATAGTGC
Pongo abelii AGGTCTGGTTTGAACAGGCCACCGAGATAGTCAAGAGTGGCCATTAACAGAGGCAAGAAAGAAAGTGGCTGGCGGAAAGCTTCGCGGGCCCTGCCCTGACCTCATGCACATAGTGC
Macaca mulatta AGGTCTGGTTTGAACAGGCCACCGAGATAGTCAAGAGTGGCCATTAACAGAGGCAAGAAAGAAAGTGGCTGGCGGAAAGCTTCGCGGGCCCTGCCCTGACCTCATGCACATAGTGC
Callithrix jacchus AGGTCTGGTTTGAACAGGCCCTGGAGATAGTCAAGAGTGGCGGATTAACAGAGGCAAGAAAGAAAGTGGCTGGCGGAGAGCTTCGCGGGCCCTGCCCTGACCTCATGCACATAGTGC
Mus musculus AGGTCTGGTTTGAACAGGCCCTGAGATAGTCAAGAGTGGCCATTAACAGAGGCAAGAAAGAAAGTGGCTGGCGGAGAGCTTCGCGGGCCCTGCCCTGACCTCATGCACATAGTGC
Rattus norvegicus AGGTCTGGTTTGAACAGGCCCTGAGATAGTCAAGAGTGGCCATTAACAGAGGCAAGAAAGAAAGTGGCTGGCGGAGAGCTTCGCGGGCCCTGCCCTGACCTCATGCACATAGTGC
Bos taurus AGGTCTGGTTTGAACAGGCCCTGAGATAGTCAAGAGTGGCCATTAACAGAGGCAAGAAAGAAAGTGGCTGGCGGAGAGCTTCGCGGGCCCTGCCCTGACCTCATGCACATAGTGC
Sus scrofa AAATCTGGTTTGAACAGGCCACCGAGATAGTCAAGAGTGGCGGCTGACAGAGGCAAGAAAGAAAGTGGTGTATGGAAGGCTTCGCGGGCCCTGCCCTGACCTCATGCACATAGTGC
Canis lupus familiaris AAATCTGGTTTGAACAGGCCCTGAGATAGTCAAGAGTGGCGGCTGAGCAGAGGCAAGAAAGAAAGTGGTGTATGGAAGGCTTCGCGGGCCCTGCCCTGACCTCATGCATATAGTGC
Equus caballus AAATCTGGTTTGAACAGGCCCTGAGATAGTCAAGAGTGGCGGCTGAGCAGAGGCAAGAAAGAAAGTGGTGTATGGAAGGCTTCGCGGGCCCTGCCCTGACCTCATGCATATAGTGC

Homo sapiens AGGCAGACAAACCGTCCATCAGTGTAGAGAGTGTTTGGAGGCTTTAAGCAAGTGTTTGGAGGCTTAGAGAGCCGAGGACAGCCACAGGTGAGGTATCTGAAGACCTATCAGAGGAAAG
Pan troglodytes AGGCAGACAAACCGTCCATCCGTTAGAGAGTGTTTGGAGGCTTTAAGCAAGTGTTTGGAGGCTTAGAGAGCCGAGGACAGCCACAGGTGAGGTATCTGAAGACCTATCAGAGGAAAG
Gorilla gorilla AGGCAGACAAACCGTCCATCAGTGTAGAGAGTGTTTGGAGGCTTTAAGCAAGTGTTTGGAGGCTTAGAGAGCTTTAGAGAGCTTAGAGAGCTTAGAGAGCTTAGAGAGGAAAG
Pongo abelii AGGCAGACAAACCGTCCATCAGTGTAGAGAGTGTTTGGAGGCTTTAAGCAAGTGTTTGGAGGCTTAGAGAGCCGAGGACAGCCACAGGTGAGGTATCTGAAGACCTATCAGAGGAAAG
Macaca mulatta AGGCAGACAAACCGTCCATCAGTGTAGAGAGTGTTTGGAGGCTTTAAGCAAGTGTTTGGAGGCTTAGAGAGCTTTAAGCAAGTGTTTGGAGGCTTAGAGAGCTTAGAGAGGAAAG
Callithrix jacchus AGGCAGACAAACCGTCCATCAGTGTAGAGAGTGTTTGGAGGCTTTAAGCAAGTGTTTGGAGGCTTAGAGAGCCGAGGACCTCCAGAGTGAGGTACTTGAAGACCTATCAGAGGAAAG
Mus musculus AGGCAGACAAACCGTCCATCAGTGTAGAGAGTGTTTGGAGGCTTTAAGCAAGTGTTTGGAGGCTTAGAGAGCCGAGGACCTCCAGAGTGAGGTACTTGAAGACCTATCAGAGGAAAG
Rattus norvegicus AAGCAGACAAACCGTCCATCAGTGTAGAGAGTGTTTGGAGGCTTTAAGCAAGTGTTTGGAGGCTTAGAGAGCCGAGGACCTCCAGAGTGAGGTACTTGAAGACCTATCAGAGGAAAG
Bos taurus AGGCAGACAAACCGTCCATCAGTGTAGAGAGTGTTTGGAGGCTTTAAGCAAGTGTTTGGAGGCTTAGAGAGCCGAGGACCTCCAGAGTGAGGTACTTGAAGACCTATCAGAGGAAAG
Sus scrofa AAGCAGACAAACCGTCCATCAGTGTAGAGAGTGTTTGGAGGCTTTAAGCAAGTGTTTGGAGGCTTAGAGAGCCGAGGACCTCCAGAGTGAGGTACTTGAAGACCTATCAGAGGAAAG
Canis lupus familiaris AAGCAGACAAACCGTCCATCAGTGTAGAGAGTGTTTGGAGGCTTTAAGCAAGTGTTTGGAGGCTTAGAGAGCCGAGGACCTCCAGAGTGAGGTACTTGAAGACCTATCAGAGGAAAG
Equus caballus AGCGGCAAACTCGTCCATCAGTGTAGAGAGTGTTTGGAGGCTTTAAGCAAGTGTTTGGAGGCTTAGAGAGCCGAGGACCTCCAGAGTGAGGTACTTGAAGACCTATCAGAGGAAAG

Homo sapiens GAGAGAAGGTTCTCAGCTATGTGTTACGGCTAGAAAACCTGCTCCGGAAGCGGCTGGAGAAACGGCCATCCCTCGGCGTATTGGCGACAGGTCGCGCTGGAGCAGGTCTGGCTGGGG
Pan troglodytes GAGAGAAGGTTCTCAGCTATGTGTTACGGTTAGAAAACCTGCTCCGGAAGCGGCTGGAGAAACGGCCATCCCTCGGCGTATTGGCGACAGGTCGCGCTGGAGCAGGTCTGGCTGGGG
Gorilla gorilla GAGAGAAGGTTCTCAGCTATGTGTTACGGTTAGAAAACCTGCTCCGGAAGCGGCTGGAGAAACGGCCATCCCTCGGCGTATTGGCGACAGGTCGCGCTGGAGCAGGTCTGGCTGGGG
Pongo abelii GAGAGAAGGTTCTCAGCTATGTGTTACGGTTAGAAAACCTGCTCCGGAAGCGGCTGGAGAAACGGCCATCCCTCGGCGTATTGGCGACAGGTCGCGCTGGAGCAGGTCTGGCTGGGG
Macaca mulatta GAGAGAAGGTTCTCAGCTATGTGTTACGGTTAGAAAACCTGCTCCGGAAGCGGCTGGAGAAACGGCCATCCCTCGGCGTATTGGCGACAGGTCGCGCTGGAGCAGGTCTGGCTGGGG
Callithrix jacchus GAGAGAAGGTTCTCAGCTATGTGTTACGGTTAGAAAACCTGCTCCGGAAGCGGCTGGAGAAACGGCCATCCCTCGGCGTATTGGCGACAGGTCGCGCTGGAGCAGGTCTGGCTGGGG
GAGAGAAGGTTCTCAGCTATGTGTTACGGTTAGAAAACCTGCTCCGGAAGCGGCTGGAGAAACGGCCATCCCTCGGCGTATTGGCGACAGGTCGCGCTGGAGCAGGTCTGGCTGGGG

[illegible]

Homo sapiens	GGCATGAACCGCCATGCCTGGCC---CTGATTTTTCTTTTTAAG-----AAAAA---A---TATCTAG
Pan troglodytes	GGCATGAACCGCCATGCCTGGCC---CTGATTTTTCTTTTTAAG-----AAAAA---A---TATCTAG
Gorilla gorilla	GGCATGAACCGCCATGCCTGGCC---CTGATTTTTCTTTTTAAG-----AAAAA---A---TATCTAG
Pongo abelii	GGCATGAACACATGCCTGGCC---CTGATTTTTCTTTTTAAG-----AAAAA---A---TATCTAG
Macaca mulatta	GGCATGAACACATGCCTGGCC---CTGATTTTTCTTTTTAAG-----AAA-AA---A---TATCTAG
Callithrix jacchus	GGCTTGAGCCACATGCCAGCC---CCTGATTTTTCTTTTTTAA-----AAAAAT---A---TAGCTAC
Mus musculus	GGAAATCCCCACACTAGTTCGCCATCTCGGTTTTCTTTCTAG---AAAAAA---A-----
Rattus norvegicus	GGAAATATCTACCACTAGAGCTCCATCTT-GTTTTCTTTCTGAGGTAAAAA-----AACCTGGAGTTTGAGGACTCTAACTAGATTGTTAAAAA-----A-----
Bos taurus	-----GATTCTTCTCTATAAG-----GAAAAAAAAA---ATATGA
Sus scrofa	-----GATTCTTCTTTCTAAG-----AA-----
Canis lupus familiaris	-----ATTCTTCTTTCTAAG-----AAAAAAAAAAAAAGTATCCCA
Equus caballus	-----ATTCTTCTTTCTAAA-----AAAAA-----GCCTGA
Homo sapiens	GAGTTTCTTAGACCTATGTAGAT-----
Pan troglodytes	GAGTTTCTTAGACCTATGTAGAT-----
Gorilla gorilla	GAGTTTCTTAGACCTATGTAGAT-----
Pongo abelii	GAGTTTCTTAGACCTATGTAGAT-----
Macaca mulatta	GAGTTTCTTAGACCTTTGTAGAT-----
Callithrix jacchus	GAGTTTCTTAGACTCTATGTAGAT-----
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	GAGCTTCTTGGACTCTA-----CATAGATAATGTCTAGTCTCTTCAGTCGTGTTGATTCTGTGCAACCTGACCTAATGGACTATAGCTTACCGGGCTCTCTGTCCATGGGATTC
Sus scrofa	-----
Canis lupus familiaris	GAGTTTCTTGGACCTTATATAGAT-----
Equus caballus	GGGTTTCTTGGGCCCTTCATAGAT-----
Homo sapiens	-----TATTAATGAACAAAAGATTAAATCCAAATAT
Pan troglodytes	-----TATTAATGAACAAAAGATTAAATCCAAATAT
Gorilla gorilla	-----TATTAATGAACAAAAGATTAAATCCAAATAT
Pongo abelii	-----TATTAATGAACAAAAGATTAAATCCAAATAT
Macaca mulatta	-----TATTAATGAACAAAAGATTAAATCCAAATAT
Callithrix jacchus	-----TATTAATGAACAAAGATTAGACTCCAAATAT
Mus musculus	-----AAAAATACAAGACTAAGTCCAAT---
Rattus norvegicus	-----AAAAATACAAGACTAAGTCCAAT---
Bos taurus	TCCAGGTAAGAATACTGGAGTGGGTTGCCATGCCCTCCCTTCAGGGGATCTCCCGATCCAGGACCAACCCCTGCGATTACAGATGATTATTAAATAACAAAACTTAAATTCCAAATAG
Sus scrofa	-----
Canis lupus familiaris	-----GATGACTAAACCTGGATTCAATTCCAAATAT
Equus caballus	-----TATGAACAAACAAAAGATTAAATTCCAAATGT
Homo sapiens	TAAATAGTAAGCCTGAAGGAATCTGAACACTTGTACTTCCAATTTTCTTT-----
Pan troglodytes	TAAATAGTAAGCCTGAAGGAATCTGAACACTTGTACTTCCAATTTTCTTT-----
Gorilla gorilla	TAGATAGTAAGCCTGAAGGAATCTGAACACTTGTACTTCCAATTTTCTTT-----
Pongo abelii	TAGATAGTAAGCCTGAAGGAATCTGAACACTTGTACTTCCAATTTTCTTT-----
Macaca mulatta	TAGATAGTAAGCCTGAAGGAATCTGAACACTTGTACTTCCAATTTTCTTT-----
Callithrix jacchus	TAGATAGTAATCTGAAGGAATCTGAACACTTGTACTTCCAATTTTCTTT-----
Mus musculus	-----ACCTAAAACTTCTGAACCTT-TAGTTTCCTTTAAGTACACCGGGTTGGCCAGACAGCTCGGTTGATCAAGTTACTTACCATTCTCTTCAGAGGGAGCAAT
Rattus norvegicus	-----ACCTAAAACTCTGAACTCT-TAGTTTCCT-----ACACAAGGGTTGGCCAGACAGCTTGGTTGGTCAAGTTGCTGTGACGTCTCTTCAGAGGGAGTGAT
Bos taurus	GAGGTGAGAAGCCTAAAGGAATCTGAACAG-----GTGTCCTTT-----
Sus scrofa	-----
Canis lupus familiaris	GCATAGGAAGTCTGAAGGAATCTGAAGCACTTGA-----AGTTT-----
Equus caballus	GAGACAGGAAGCCTAAAGGAATCTGAAGCACTTCA-----GGTTTCCTTT-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jacchus	-----
Mus musculus	AATGTGAACAGGAGATAGGAATTGGCCAGGCAGGGGCTGGAGGGATGCT---CAGCCATTAAAGCACATTTGCTATTCTTTTGGAGGAGTTTCAGATCGCAGCAGCCCATGTAGTGGTTCCACA
Rattus norvegicus	AATGTGAACAGGAGATAGAACTGGCCAGGCAGGGGCTGAAGAGCTACTCGTCAGCACTAAACACACTTGCTACTCTTTGAAGG-----GATCCAGTACCCATGCGGTGGTTCCCA
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jacchus	-----
Mus musculus	ATTCTCTATAAC-----GGGGATCCAAACCTTCTTCTGGTCTCTTTGGGTACTTTGTCATATGTTGGTACACATGCATACATGCAGACCATACACATAAATAAANAACAAATAAT
Rattus norvegicus	ACTATCAATAACTCTTTGTTTCAGGGGATTCAACCTCTTCTTCTGGTCTCTTTAAGCACTGCACACATGTGGACATACACATACATGCAGACCATACATAAATAAACA-----AA
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jacchus	-----
Mus musculus	CCTTAAGAAGAAAGAACCTGGCTAGGCAGTTTCCAGGCATTCCAAAAGTGTCCCTGGTCTTCTGGTGCATGAACCTCACAAGGAGCTCTGATTTCOCATTGTCCCTCTCTGAAGGTTA
Rattus norvegicus	CCTTAGGAGGAAAGAAACAGGCCGGGCGAGTTTCTAGGCATTCCCAATGTATCCCTGGTTCTCTGGTCC-----TGTCCCTCTCTAAGGTTA
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jacchus	-----
Mus musculus	CACCTTGAGGGTGGGACCTTCAGTCAGACACTAATCCATTTTGGGATAGTGTAGAATTAGGTCCATAGATTT-TTCATGATAAAATGGCTTATATCTGTTCCCGAGTTTTAGCCATACT
Rattus norvegicus	CACCTTGAGGGTGGGACCTTTAGCCAGACACTAATCCATTTTGGGATAGCTGTAGAATTAGGTCCATAGATTTTTTCATGATAAAATGGCTTATATCTGTTCCCGAATTTTAGCCC-ATCT
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jacchus	-----
Mus musculus	CCTATATGATTTTAGGGGTAGCTCATCAGAGGGGGAATTTACAGTAGCCCTTGATCAGGACTTTTCTGAGTCTCATTAAAGAGAAACCATGGCTTCTGGTCAGAAAAATGGAATCTACC
Rattus norvegicus	CCTAAATGATTTTAGGGTTTACTCATCAGAGGGGAGAATTTACAGTAGCCCTTAGTCAGGGCTCTTCTGAATCTCATTAGAGAAACCGTTGCCTTCTGTCAGAGAATGG-----
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----

lithrix jachus	TCTTGCCTAGGCGAGACCTACCATTGCAAGCTAACCAAAACATAAGCGTTAATCAAGTCGGGCGAGTCCATCACCAGGCTAATGGACTGCCATTAGGAAGGCAGATTCACTAAGCTC
Rattus norvegicus	-----TCTAAGCAGAGACATACCATTGCAGGCTAACCCAGCATGA-----GTTAATCCAGTTGGACAGGTTTCATCGCTGGCTAGTGAGCTGCCATCAGGAAGGCAGATTCACTTCTCT
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jachus	-----
Mus musculus	ATGCTAATGAGATGGAAGGAATAATTATCCCTTTAATGAAGTAATGTCCTTTTCCCTTCCAGAGTCCTGCTATCTGTACAGTCACTACGAAGTACCATAAGAAATGATTTTCACTTTT
Rattus norvegicus	ATGCTAATGAGATGGGAAGATAACTATCCCTTTAATGAGGTATATACTTTTCCCTTCCAGAGTCCCTGCTATCTATACAGCCCTACAGAACCCATTGAAATGTCAATTTCACTTTT
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jachus	-----
Mus musculus	TCTTTTTCTTTT-----GCTGGCCAGGCTAAGCGCACATTCTTGTACTTTGAGCTGTTTCACTCTCTCCATGTGGCTGCATGCTAACCCCTTACCCTACAAAAGAAAGC
Rattus norvegicus	TCCTTTTCGTTTCTGCTTGGCACTGGCCAGGTTAAGTACACATCTTACTGATTTCGGGCTGTTCTCTTCTCCATGTGGCTACATGCTTACCTTCTACTCTACAAA-----ACA
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jachus	-----
Mus musculus	GTGGCTTTCTCTCTTTTCTCTATATCCCTCTTCCAGGTATGTTTATCCCCATAAGCCATAGGGTAGAAGGAGAGAACCAATCTCTGCAAGCTGTCAATTTTACAC---ACACACAC
Rattus norvegicus	GTGGCT-TCTCTCTTCTCTTCTAT-TCCTTCTTCCGGCAGTTTGTATCCCCATAACCCATGGGTAGAGAAGAAACCATTCTCTGCAAGCTGTCAATACACACACACACAC
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jachus	-----
Mus musculus	ATGTACAATA-----
Rattus norvegicus	ACACACACACACACACACACACATACACACACACATCATGTAAATTTTTTTTTTTTTTTTGGTTCTTTTTTCGGAGCTGGGAGCACCACCCAGGGCTTGGCTCTCTAGGTA
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jachus	-----
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jachus	-----
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jachus	-----
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jachus	-----
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jachus	-----
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jachus	-----
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jachus	-----
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jachus	-----
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jachus	-----
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	-----
Pan troglodytes	-----
Gorilla gorilla	-----
Pongo abelii	-----
Macaca mulatta	-----
Callithrix jachus	-----
Mus musculus	

Equis caballus	CCTCGCCGCTTCTCCTCTTT-----TCATTCCGTGACTTGGAGACGCTGCCTCCTGCTTCCCACGAGGCTTGCGCTGGACAGATTCACG----
Homo sapiens	TGTCAGGCCCTGAAGACACAGATGACTCAACCTAAGCTTTACTTTCCAGAGGTCACACGCTTGAGAGGTCGCCCAAAGAAAGGGGGACATGAGG--GGACTGCATGCTTTGAGAGCAGGGT
Pan troglodytes	TGTCGGGGCCCTGAAGACACAGAGGACTCAACCTAAGCTTTACTTTCCAGAGGTCACACGCTTGAGAGGTCGCCCAAAGAAAGGGGACATGAGG--GGACTGCATGCTTTGAGAGCAGGGT
Gorilla gorilla	TGTCGGGGCCCTGAAGACACAGATGACTCAACCTAAGCTTTACTTTCCAGAGGTCACACGCTTGAGAGGTCGCCCAAAGAAAGGGGACATGAGG--GGACTGCATGCTTTGAGAGCAGGGT
Pongo abelii	TGTCAGGCCCTGAAGACACAGATGACTCAACCTAAGCTTTGCTTTCCAGAGGTCACACGCTTGAGAGGTCGCCCAAAGAAAGGGGGACATGAGG--GGACAGCATGCTCGAGAGCAGGGG
Macaca mulatta	TGTCGGGGCCCTGAAGACACAGATGACTCAATCTAAGCTCTGCTTTCAAGA-----GCCTGAGAGGTCGCCCAGAGAAAGGGGGACATAAGG--GGACAGCATGCTCAAGGACGAGGG
Callithrix jacchus	TGTCAGGCCCTGAAGACACAGATGACTCAACCTAAGCTCTGCTTTCAAGAAGTCCCCAGCTTGGAAAAATAC-----
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	TGTTAC-CCCCAAGGCCA-----AGAGTCCATGGTGTGAGGGACATTCTCAAGAAAGGGTAGACATCAC--GGAGGGCCTGGAG--GAGCAGGGA
Sus scrofa	-----
Canis lupus familiaris	TGATAGGCCCTCAAGATACCATTGACTCAGCCTAATCCCTGCTTTCAAGAGATCTACAGTGTGCAAGACACCTTCAAAAAGTGTAACATTTATG--GGAAGGCATGCTAGAGAGGGAGGA
Equis caballus	TGCTAGGCCCTGAAGACACAGATGACTCAGCCTAACCTTGGCTTTCAAGAGGTCGTCAAGTGTGACAGGCGTCTCCAGAGA--GGAGACATTAGA--AGAGAGCGTCTGGAGAGTGGGGA
Homo sapiens	TCGTTTTAGGGCAGGTTGGATTATGATGAGCAGGCTGGTTGCTTAGAG-----AAGCGTTTTAGTGGCAACAAGGATGAAGAGGAGAGAAAAGGAAGCTCA-CATTTATTGAGGGCCTACTGT
Pan troglodytes	TCGTTTTAGGGCAGGTTGGATTATGATGAGCAGGCTGGTTGCTTAGAG-----AAGCGTTTTAGTGGCAACAAGGACGAAGCAGAGGAGAGAAAGGAAGCTCA-CATTTATTGAGGGCCTACTGT
Gorilla gorilla	TCGTTTTAGGGCAGGTTGGATTATGATGAGCAGGCTGGTTGCTTAGAG-----AAGCGTTTTAGTGGCAACAAGGACGAAGAGGAGAGAGAAAAGGAAGCTCA-CATTTATTGAGGGCCTACTGT
Pongo abelii	TGTTTTAGGGCAGGTTGGATTATGATGAGCAGGCTGGTTGCTTAGAG-----AAGGTTTTAGTGGCAACAAGGACAAAGAGGAGAGAGAAAAGGAAGCTCA-CATTTATTGAGGGCCTACTAT
Macaca mulatta	TGTTTTAGGGCAGGTTGGATTATGATGAGCAGGCTGGTTGCTTAGAG-----AAGATTTTTAGTGGCAACAAGGACAAAGAGGAGAGAGAAAAGGAAGCTCA-CATTTATTGAGGGCCTACTAT
Callithrix jacchus	-----
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	CGCACTGACCATTGTTTGATT-----CAGGCCAG--TGGTTAGAGAAGAAGATTTTATGAGCAGCAAAAGACAAAGAGAGAGGAAGTGAAGCTGA-TAGTTACTGAGAAAAATGCTCT
Sus scrofa	-----
Canis lupus familiaris	-----TTGGATTTTATGAGCAGACCATTCTGATCAGAG-----AATATTTTATGTTGTCACAAAGGGGACAGAGAGAGGAATGGAGCTGCTTATTTATTGAGGGTCTATTAT
Equis caballus	CACACAGGCCGTGTTGGATTGTTGAGCAGGCTGGTCTGGTTAGAGAGGAAGATCTTCTATGGTGACAGGGGCAAGAGCAGGAGAGGGAAGTCA--CATTTGCTGAGGCCCTACTAT
Homo sapiens	GTGCAAAAGTGTTTCATGTATATCTCATTGAATGTATACAGCCACCT-----GTTGTGG
Pan troglodytes	GTGCAAAAGTGTTTCATGTATATCTCATTGAATGTATACAGCCACCT-----GTTGTGG
Gorilla gorilla	GTGCAAAAGTGTTTCATGTATATCTCATTGAATGTATACAGCCACCT-----GTTGTGG
Pongo abelii	GTGCAAAAGTGTTTCATGTATATCTCATTGAATGTATACAGCCACCT-----GTTGTGG
Macaca mulatta	GTGCAAGTGTTTCATGTATATCTCATTGAATGTATACAGCCACCT-----GTTGTGG
Callithrix jacchus	-----
Mus musculus	-----A-----ACACATATATCTCATTAAATGTGTCAACACCTACTCTTTATAGGGTGTGTGTGTGTGTGCGCTTGCATGCATGTATGTGTGTGTGTGTGGAGAGGGGTGGGGCTTGTGG
Rattus norvegicus	-----A-----ACACATATATCT-----TGTGTGCAGCAATCTACTGTTATAGGGTGA
Bos taurus	CGCCAGGCATCTTACATGTATTTCCCTTTCATGTGTACAGCATCCCC-----AGTGTGG
Sus scrofa	-----
Canis lupus familiaris	GTGCCAGGTGTTGTACACATATCTCATTAAATGTAGACAGCAACATC-----AGTA-GG
Equis caballus	GTGCCAGATGCTTTACGCAAGCTCTCTTTACATGTCTCAGCAGCCCC-----AGTAGG
Homo sapiens	TATAATTTTGCTCTTTATAA-AG-----
Pan troglodytes	TATAATTTTGCTCTTTATAA-AG-----
Gorilla gorilla	TATAATTTTGCTCTTTATAA-AG-----
Pongo abelii	TATAATTTTGCTCTTTATAA-AG-----
Macaca mulatta	TATAATTTTGCTCTTTATAA-AG-----
Callithrix jacchus	-----
Mus musculus	TA-----CACTTCAA-AA-AG-----
Rattus norvegicus	-----CACTTCAA-CA-----
Bos taurus	GATAATTATGCTCATTTTAAAGAGAGGGGGAGCTTCCCTGATGTTCAGTGCTTAGGACTCCAAGTTCCAAANAATAAAAGCAGGGGTGAAGATTTGATCCCTGGTTGGAGAGCTA
Sus scrofa	-----
Canis lupus familiaris	TATCATTTTGCCCTTTTTGAAG-----
Equis caballus	TATGATTTTGCTCTTTTGAAG-----
Homo sapiens	-----AGAAAG--ACCGAGCTCAGATGAGTTAAGTG
Pan troglodytes	-----AGAAAGAAACCGAGCTCAGATGGGTTAAATG
Gorilla gorilla	-----AGAAAGAAACTGAAGCTCAGATGGGTTAAGTG
Pongo abelii	-----AGAAAGAACTGAAGCTCAGATGGGTTAAGTG
Macaca mulatta	-----AGAAAGAACTGAAGCTCAGATGGGTTAAGTG
Callithrix jacchus	-----
Mus musculus	-----GGAAAGATGC-AAAGGTCAACTAAGTTAAATG
Rattus norvegicus	-----AGAAAGAGC-AAAGCTCTACTGAGTTAAATG
Bos taurus	AGATCCCACTTGCAAATGGCAGCAGGCAAAACTTAAACAAATTATAATTTTTTAAAAATATCTCCCAAAATAAAATAACTAGATAAGTGAGAAAGAAAAAAGTCTCATGGGTTACAGG
Sus scrofa	-----
Canis lupus familiaris	-----AGACACAGACAAAACTCAGAAGCTCAAGTG
Equis caballus	-----ACAAGAAACTGAAGCTCAGATGGGTTAAGTG
Homo sapiens	GTCTCCTCAACACCAAAA--TGCCAAGAAGTGATGGAGCCTAGACAGAAAGCCCA-----
Pan troglodytes	GTCTCCTCAGCACCAAAA--TGCTGAGAAGTGATGGAGCCTAGACAGAAAGCCCA-----
Gorilla gorilla	GTCTCCTCAACACCAAAA--TGCTGAGAAGTGATGGAGCCTAGACAGAAAGCCCA-----
Pongo abelii	GGCTCCTCAACACCAAAA--TGCTAAGAAATGATGGAGCCTAGACAGAAAGCCCA-----
Macaca mulatta	GTCTCCTCAACACCAAAA--TGCTAAGAAGTATGAGGACCTAGACAGAAACCCA-----
Callithrix jacchus	-----
Mus musculus	GC-----CTCAGCACCAAAA--TGCTCAGAAGTGAA-----ACCAGACAGAGGCCCA-----GAAC
Rattus norvegicus	GT-----CTCAGCACCAAAA--TGCTCAGAAGTGAT--ACCC-----GAAC
Bos taurus	-----CTGCACTCAACCAAAA--CGCTAACAGGTGGCAGAGCACA--ACGGAAGTCGGGACCTCTGTGACTCTCCCTAATCCGCTCTCCACCGTGATCGAGATTTTCAAATCGTGCTTTGT--
Sus scrofa	-----
Canis lupus familiaris	GTCTCGTCAATATCGAAA--TGCTGACAAGCAGCAGAGCGGACAGAAA-----CTCTGACTCTGGCTAATCCTCTTGCCATACAATCATGATTTTCAAGTCGTGCTGTAT--
Equis caballus	GCTTTCTCAGTATCAAAC--TGCTGACGAGGGGCGAGGCTGAGACCGGAGTCCAGAGCTCTGACTTTCACTAGTCTCTCTCCACTGTCACTGTGGTTTTCGAAGCTCTGCTGTGC--
Homo sapiens	-----GAAGCTTCTGACTCAACATGCTCAATCCCTACACATCAGATGACTTTTCAAATGTGCTGCGAGTCT
Pan troglodytes	-----TAAGTTTCTGACTCAACATGCTCAATCCCTACACATCAGATGACTTTTCAAATGTGCTGCGAGTCT
Gorilla gorilla	-----GAAGTTTCTGACTCAACATGCTCAATCCCTACACATCAGATGACTTTTCAAATGTGCTGCGAGTCT
Pongo abelii	-----GAAGTTTCTGACTCAACATGCTCAATCCCTACACATCAGATGACTTTTCAAATGTGCTGCGAGTCT
Macaca mulatta	-----GAAGTTTCTGACTCAACATGCTCAATCCCTACACATGATGACTTTCAAATGTGCTGCGAGTCT
Callithrix jacchus	-----GAAGTTTCTGACTCAACATGCTCAATCCCTACACATGATGACTTTCAAATGTGCTGCGAGTCT
Mus musculus	AAGACTTTAGGGATCCACCCCT-----TGTGCGTGCCTCAAATGTGTTTCTT-----AGTTCT
Rattus norvegicus	AAGACTTTAGGAATCCACCCCTGCTTGTGTGTCACCTCCAGTGTGTTTCTC-----AGTTCT
Bos taurus	-----
Sus scrofa	-----AGTTCT
Canis lupus familiaris	-----AGTTCT
Equis caballus	-----AGGCTC
Homo sapiens	CGAG-----A-TTTTTCAGCAGTGCCATCTCCAAAATGTTGTTTAACTCTTTATTTTT--TA-ATTATTA--TTGATATTATTTTGAGACTGAGTCTTGCTCTATACCCAGGC
Pan troglodytes	CGAG-----A

Macaca mulatta	ATTTTGTATTTTGTAGAAACGGGGTTTGCCATGTGTGGCCAGGCTGGTCTCAAACCTCTGACCTCAAGTGATCCCGTCCACCTCAGCCTCCCAAAGTGCTGGGATTACAGGTGTGAGC
Callithrix jacchus	ATTTTGTATTTTGTAGAACTGGGTTTCACCGTGTGGCCAGGCTGGTCTTGAACCTCTGACCTCAAGTGATCCACTCACCCTCAGCCTCCCAAAGCGCTGGGATTACAGGCATGAGC
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	CACCATGCCTGGGCTAAACTCTTTAAGTCTCTAGTAAAT-GCAGC-----TAGATTCAAATGG-----GCTGATAACCAAATTTTAACACATCAGCATTACCACCAGGTTTACTTTTAT
Pan troglodytes	CACCATGCCTGGGCTAAACTCTTTAAATCTCTAGTAAAT-GCAGC-----TAGATTCAAATGG-----GCTGATAACCAAATTTTAACACATCAGCATTACCACCAGGTTTACTTTTAT
Gorilla gorilla	CACCATGCCTGGGCTAAACTCTTTAAATCTCTAGTAAAT-GCAGC-----TAGATTCAAATGG-----GCTGATAACCAAATTTTAACATCAGCATTACCACCAGGTTTACTTTTAT
Pongo abelii	CACCGTGGCTGGGCTAAACTCTTTAAATCTCTAGTAAATAGCAGC-----TAGATTCAAATGG-----GCTGATAACCAAATTTTAACACATCAGCATTACCACCAGGTTTACTTTTAT
Macaca mulatta	CACCACGCCCGGCTAAACTCTTTAAATCTCTAGTAAATACAGC-----TAGATTCAAATGG-----GCTGATAACCAAATTTTAACACAGAAGCATTACCACCAGGTTTGGCGTTAT
Callithrix jacchus	CCCTGCACCCAGCTAAAGTCTTTGACTTTCTAGTGAATAACAGC-----TAGATTTAAATGG-----GCTGATAACCAAATTTTGCGACATTTAGCATTCACCACCAGGTTTGGCTTTGT
Mus musculus	-----CTTACATCTCAGACACCCAGCAGG-----TAGATTCAGGTGT-----GCTAATGACCAAGTCTCAGTATCTCCGGTTTCA-----CCAAGCTTGCTTTTGT
Rattus norvegicus	-----CTTAAGTCTCGAACACCCAGCAGG-----GAGTATCAAGTGC-----GCTAGT-ATCAGGTCTCAGGATGTGATGTTC-----CAGGCTTGCTTTTGT
Bos taurus	-----TTTAAATCTCTATTAGATAACAGGTAGACAGACACAAGTGT-----GCTGATATCCAGATTTTAACTACTGGCAITTTGCGACAGGCTCAGCTGTGT
Sus scrofa	-----AACATATCTGAGTGTCTTCTGGGCCCTACATAGATTTTAAACAGATGGCAITTTAGCAACAGGCTCTCTTTGT
Canis lupus familiaris	-----TTACATCTCTACTGAAGACAGG-----TAGATTCAGGTGC-----GTGATATCCAGATGTTTCAACATTTGGCAITTCATCCGAGGCTCAGTATGT
Equus caballus	-----TTTAAATCTCTAATAAATGACAGA-----TAGACTCAAGTCT-----G-----TTATCCAAATTTTAAACACATTTGGCAITTCGCCAGCAGCTTGCCTTTGA
Homo sapiens	TTT-----
Pan troglodytes	TTT-----
Gorilla gorilla	TTT-----
Pongo abelii	TTC-----
Macaca mulatta	TTC-----
Callithrix jacchus	TTC-----
Mus musculus	TTC-----
Rattus norvegicus	TTC-----
Bos taurus	TTC-----
Sus scrofa	TTT-----
Canis lupus familiaris	TTCCAGATTTTTTTTTTAAGATTTTATTATTATTATTCATGAGAGCAGAGAGAGATAGAGAGAGAGAGGCGAGAGACACAGGCAGAGGGGAGAAGCAGGCTCCATGCAGGGAGAGCAATGTG
Equus caballus	TTC-----
Homo sapiens	-----CAGATTGGCTCATTTTGTGACAGCCTTAGAGCA
Pan troglodytes	-----CAGATTGGCTCATTTTGTGACAGCCTTAGAGCA
Gorilla gorilla	-----CAGATTGGCTCATTTTGTGACAGCCTTAGAGCA
Pongo abelii	-----CAGATTGGCTCATTTTGTGACAGCCTTAGAGCA
Macaca mulatta	-----CAGATTGGCTCATTTTGTGACAGCCTTAGAGCA
Callithrix jacchus	-----CAGATTGGCTCATTTTGTGACAGCCTTAGAGCA
Mus musculus	-----CAGATTGGCTCATTTTGTGACAGCCTTAGAGCA
Rattus norvegicus	-----CAGATTGGCTCATTTTGTGACAGCCTTAGAGCA
Bos taurus	-----CAGATTGGCTCATTTTGTGACAGCCTTAGAGCA
Sus scrofa	-----CAGATTGGCTCATTTTGTGACAGCCTTAGAGCA
Canis lupus familiaris	GGACTCGATCTCGGACTCCAGGATCAGCTCCCTGGGCCAAGCGAGGCACCTCAACCAGCTGAGCCACCCAGGGATCCCTTATGTTCAGAGTGACTTGTTTTGTGACAGCCTTGAAGA
Equus caballus	-----GAGATTGACTCATTTTGTGACAGCCTTGAAGA
Homo sapiens	AAGTTTCCCTTATGGTATCTGTGTACGTAT-CCAAACTCTTTTAAATTTGTCACAGATTTTAAAGCGGTAGCACCACATGGTGTG--TGATAGATCAGACCTGTGATTTAGATCAGACCT
Pan troglodytes	AAGTTTCCCTTATGGTATCTGTGTACGTAT-CCAAACTCTTTTAAATTTGTCACAGATTTTAAAGCGGTAGCACCACATGGTGTG--TGATAGATCAGACCTGTGATTTAGATCAGACCT
Gorilla gorilla	AAGTTTCCCTTATGGTATCTGTGTACGTAT-CCAAACTCTTTTAAATTTGTCACAGATTTTAAAGCGGTAGCACCACATGGTGTG--TGATAGATCAGACCTGTGATTTAGATCAGACCT
Pongo abelii	AAGTTTCCCTTATGGTATCTGTGTACGTAT-TCGAAGTCTTTTAAATTTGTCACAGATTTTAAAGCGGTAGCACCACATGGTGTG--TTTATAGTACAGACCTGTGATTTAGATCAGACCT
Macaca mulatta	AAGTTTCCCTTATGGTGTCTGTGTACGTAT-CTGAAGT-----TTTAAATTTGTCATAGATTTTAAAGCGGTAGTACCACATGGTGTG--TTTATAGTACAGACCTGTGATTTAGTACAGACCT
Callithrix jacchus	AAGTTTCCCTTATGGTGTCTGTGTACGTAT-CCAAACTCTTTTAAATTTGTCATAGATTTTAAAGCGGTAGTACCACATGGTGTG--TTTATAGTACAGACCTGTGATTTAGTACAGACCT
Mus musculus	AAGTTTCCCTTATGGTGTCTGTGTACGTAT-CCAAACTCTTTTAAATTTGTCATAGATTTTAAAGCGGTAGTACCACATGGTGTG--TTTATAGTACAGACCTGTGATTTAGTACAGACCT
Rattus norvegicus	AAGTTTCCCTTATGGTGTCTGTGTACGTAT-CCAAACTCTTTTAAATTTGTCATAGATTTTAAAGCGGTAGTACCACATGGTGTG--TTTATAGTACAGACCTGTGATTTAGTACAGACCT
Bos taurus	AAGTTTCCCTTATGGTGTCTGTGTACGTAT-CCAAACTCTTTTAAATTTGTCATAGATTTTAAAGCGGTAGTACCACATGGTGTG--TTTATAGTACAGACCTGTGATTTAGTACAGACCT
Sus scrofa	AAGTTTCCCTTATGGTGTCTGTGTACGTAT-CCAAACTCTTTTAAATTTGTCATAGATTTTAAAGCGGTAGTACCACATGGTGTG--TTTATAGTACAGACCTGTGATTTAGTACAGACCT
Canis lupus familiaris	AAGTTTCCCTTATGGTGTCTGTGTACGTAT-CCAAACTCTTTTAAATTTGTCATAGATTTTAAAGCGGTAGTACCACATGGTGTG--TTTATAGTACAGACCTGTGATTTAGTACAGACCT
Equus caballus	AAGTTTCCCTTATGGTGTCTGTGTACGTAT-CCAAACTCTTTTAAATTTGTCATAGATTTTAAAGCGGTAGTACCACATGGTGTG--TTTATAGTACAGACCTGTGATTTAGTACAGACCT
Homo sapiens	GTGTATCACGT-AAGTGTGTGAGTGCAGTGCAGATGAGCACCATTAGTTTATA-TGTGCTAGGCCAAAGCTCCAACACAGTTGATGTGATGCTCTTGTGTAGATTGTGTCATCTGTAAGC
Pan troglodytes	GTGTATCACGT-AAGTGTGTGAGTGCAGTGCAGATGAGCACCATTAGTTTATA-TGTGCTAGGCCAAAGCTCCAACACAGTTGATGTGATGCTCTTGTGTAGATTGTGTCATCTGTAAGC
Gorilla gorilla	GTGTATCACGT-AAGTGTGTGAGTGCAGTGCAGATGAGCACCATTAGTTTATA-TGTGCTAGGCCAAAGCTCCAACACAGTTGATGTGATGCTCTTGTGTAGATTGTGTCATCTGTAAGC
Pongo abelii	GTGTATCACCT-AAGTGTGTGAGTGCAGTGCAGATGAGCACCATTAGTTTATA-TGTGCTAGGCCAAAGCTCCAACACAGTTGATGTGATGCTCTTGTGTAGATTGTGTCATCTGTAAGC
Macaca mulatta	GTGTATCACAT-AAGTGTGTGAGTGCAGTGCAGATGAGCACCATTAGTTTATA-TGTGCTAGGCCAAAGCTCCAACACAGTTGATGTGATGCTCTTGTGTAGATTGTGTCATCTGTAAGC
Callithrix jacchus	ATGTATCACGT-AAGTGTGTGAGTGCAGTGCAGAGGGCCACCATTCAGTTTATA-CGTGCTAGGCCAAAGCTCCAACACAGTTGATGTGATGCTCTTGTGTAGATTGTGTCATCTGTAAGC
Mus musculus	-TGTGCCAGGTCAGAGTACTAGGGCACCATAAACAACATCTTGTGTG--CTGCCAGGCAGAGCTGGGCCACAGTTAGTGTGCGAGCCT-ATTGAGCTTGGCTCTGTG--GTTAGC
Rattus norvegicus	-TGTGCCAGGTCAGAGTACTAGGGCACCATAAACAACATCTTGTGTG--CTGCCAGGCAGAGCTGGGCCACAGTTAGTGTGCGAGCCT-ATTGAGCTTGGCTCTGTG--GTTAGC
Bos taurus	GT-----GATGCGCAAGTGTGCT--TCAAGATAAATGAGCATCATTCAGTTA-----AGCATACCCCAAGGCTCCAACACAACTCGATGTCTCACACTCTGGGAGCTTTATACAAACAAC
Sus scrofa	AT-----GATGTGAAGTGTGTT--TCAGGTATAAAGCAGCATCATTCAGTTA-----AATGCTAGGCAGGTTTCCAACACAACTGATATATAGCATCATGACAGCTTTGTATATACAAATAAC
Canis lupus familiaris	GT-----GATGTGAAGTGTGCTTAATAGAGCATAGGTGAGCACCATTGAGT-----AATGCTAGT-----TGATATACAGCATACAGGTAGCTTTGTATATACAAACA--
Equus caballus	GT-----GATGTGAAGTGTGCCAGAGCATATAAATGGGACCATTCAGTTG--ACTGCTAGACAGGCTCCCAACAG-TGACATAGATGACATCTGGAGCTCTGTGATTCATAATAAC
Homo sapiens	AAATGTCTAGCTTCTCTAG-----ACATCAGTT--TCCACATCTGAA--AAATAAGAAGATGAGAGTACACGGTTG--TTAT--GAACAATGACTTAATGCTTTTAAAGCAGTTGCA
Pan troglodytes	AAATGTCTAGCTTCTCTAG-----ACATCAGTT--TCCACATCTGAA--AAATAAGAAGATGAGAGTACACGGTTG--TTAT--GAACAATGACTTAATGCTTTTAAAGCAGTTGCA
Gorilla gorilla	AAATGTCTAGCTTCTCTAG-----ACATCAGTT--TCCACATCTGAA--AAATAAGAAGATGAGAGTACACGGTTG--TTAT--GAACAATGACTTAATGCTTTTAAAGCAGTTGCA
Pongo abelii	AAATGTCTAGCTTCTCTAG-----ACATCAGTT--TCCACATCTGAA--AAATAAGAAGATGAGAGTACACGGTTG--TTAT--GAACAATGACTTAATGCTTTTAAAGCAGTTGCA
Macaca mulatta	AAATGTCTAGCTTCTCTAG-----ACATCAGTT--TCCACATCTGAA--AAATAAGAAGATGAGAGTACACGGTTG--TTAT--GAACAATGACTTAATGCTTTTAAAGCAGTTGCA
Callithrix jacchus	AAATGTCTAGCTTCTCTAG-----ACATCAGTT--TCCACATCTGAA--AAATAAGAAGATGAGAGTACACGGTTG--TTAT--GAACAATGACTTAATGCTTTTAAAGCAGTTGCA
Mus musculus	AAATGTCTAGCTTCTCTAG-----ACATCAGTT--TCCACATCTGAA--AAATAAGAAGATGAGAGTACACGGTTG--TTAT--GAACAATGACTTAATGCTTTTAAAGCAGTTGCA
Rattus norvegicus	AAGTGTGTTGAGTCTTCTGTA-----ACATCCGTT--TCCTTATCTAAA--AATGCG-----CTGCCA--TTAG--GATCAGGTGGCAACATGCTTTTAAAGGCTTGGAG
Bos taurus	AAGTGTGTTGAGTCTTCTGTA-----ACATCCGTT--TCCTTATCTAAA--AATGCG-----CTGCCA--TTAG--GATCAGGTGGCAACATGCTTTTAAAGGCTTGGAG
Sus scrofa	AAGTGTGTTGAGTCTTCTGTA-----ACATCCGTT--TCCTTATCTAAA--AATGCG-----CTGCCA--TTAG--GATCAGGTGGCAACATGCTTTTAAAGGCTTGGAG
Canis lupus familiaris	AAGTGTGTTGAGTCTTCTGTA-----ACATCCGTT--TCCTTATCTAAA--AATGCG-----CTGCCA--TTAG--GATCAGGTGGCAACATGCTTTTAAAGGCTTGGAG
Equus caballus	AAGTGTGTTGAGTCTTCTGTA-----ACATCCGTT--TCCTTATCTAAA--AATGCG-----CTGCCA--TTAG--GATCAGGTGGCAACATGCTTTTAAAGGCTTGGAG
Homo sapiens	TGACATCTTGGAAACACAGAAAGCCCTCAATACATTGAAGCTCTTA-----GGATTTTCAGATG-TTCCGTGCTGCTC-----AATGCATGCTTTCTTATTTGTTCTGACAGT--TGTTGTG
Pan troglodytes	TGACATCTTGGAAACACAGAAAGCCCTCAATACATTGAAGCTCTTA-----GGATTTTCAGATG-TTCCGTGCTGCTC-----AATGCATGCTTTCTTATTTGTTCTGACAGT--TGTTGTG
Gorilla gorilla	TGACATCTTGGAAACACAGAAAGCCCTCAATACATTGAAGCTCTTA-----GGATTTTCAGATG-TTCCGTGCTGCTC-----AATGCATGCTTTCTTATTTGTTCTGACAGT--TGTTGTG
Pongo abelii	TGACATCTTGGAAACACAGAAAGCCCTCAATACATTGAAGCTCTTA-----GGATTTTCAGATG-TTCCGTGCTGCTC-----AATGCATGCTTTCTTATTTGTTCTGACAGT--TGTTGTG
Macaca mulatta	TGACATCTTGGAAACACAGAAAGCCCTCAATACATTGAAGCTCTTA-----GGATTTTCAGATG-TTCCGTGCTGCTC-----AATGCATGCTTTCTTATTTGTTCTGACAGT--TGTTGTG
Callithrix jacchus	TGACATCTTGGAAACACAGAAAGCCCTCAATACATTGAAGCTCTTA-----GGATTTTCAGATG-TTCCGTGCTGCTC-----AATGCATGCTTTCTTATTTGTTCTGACAGT--TGTTGTG
Mus musculus	TGACATCTTGGAAACACAGAAAGCCCTCAATACATTGAAGCTCTTA-----GGATTTTCAGATG-TTCCGTGCTGCTC-----AATGCATGCTTTCTTATTTGTTCTGACAGT--TGTTGTG
Rattus norvegicus	TGACATCTTGGAAACACAGAAAGCCCTCAATACATTGAAGCTCTTA-----GGATTTTCAGATG-TTCCGTGCTGCTC-----AATGCATGCTTTCTTATTTGTTCTGACAGT--TGTTGTG
Bos taurus	TGACATCTTGGAAACACAGAAAGCCCTCAATACATTGAAGCTCTTA-----GGATTTTCAGATG-TTCCGTGCTGCTC-----AATGCATGCTTTCTTATTTGTTCTGACAGT--TGTTGTG
Sus scrofa	TGACATCTTGGAAACACAGAAAGCCCTCAATACATTGAAGCTCTTA-----GGATTTTCAGATG-TTCCGTGCTGCTC-----AATGCATGCTTTCTTATTTGTTCTGACAGT--TGTTGTG
Canis lupus familiaris	TGACATCTTGGAAACACAGAAAGCCCTCAATACATTGAAGCTCTTA-----GGATTTTCAGATG-TTCCGTGCTGCTC-----AATGCATGCTTTCTTATTTGTTCTGACAGT--TGTTGTG
Equus caballus	TGACATCTTGGAAACACAGAAAGCCCTCAATACATTGAAGCTCTTA-----GGATTTTCAGATG-TTCCGTGCTGCTC-----AATGCATGCTTTCTTATTTGTTCTGACAGT--TGTTGTG
Homo sapiens	GTAAACAAGCTA-----ATATG-----CTTCCAGTTGACTTCCAGTCT-----ACCTGGTGTGTAGAAACCGTTTCATCTCTTATTGTAAATTTGAGTGC--TTGTG-GTTTTTATATT
Pan troglodytes	GTAAACAAGCTA-----ATATG-----CTTCCAGTTGACTTCCAGTCT-----ACCTGGTGTGTAGAAACCGTTTCAGCTCTTATTGTAAATTTGAGTGC--ATGTT-GTTTTTATATT
Gorilla gorilla	GTAAACAAGCTA-----ATATG-----CTTCCAGTTGACTTCCAGTCT-----ACCTGGTGTGTAGAAACCGTTTCAGCTCTTATTGTAAATTTGAGTGC--ATGTT-GTTTTTATATT
Pongo abelii	GTAAACAAGTTA-----ATATG-----TTTCCAGTTGACTTCCAGTCT-----ACCTGGTGTGTAGAAACCGTTTCAGCTCTTATTGTAAATTTGAGTGC--TTG-----TTTTTATATT
Macaca mulatta	GTCAACAAGTTA-----ATATG-----CTTCCAGTTGACTTCCAGTCT-----ACCTGGTGTGTAGAAACCGTTTCAGCTCTTATTGTAAATTTGAGTGC--TTGTT-GTTTTTATATT
Callithrix jacchus	GTCAACAAGTTA-----ATATG-----CTTCCAGTTGACTTCCAGTCT-----ACCTGGTGTGTAGAAACCGTTTCAGCTCTTATTGTAAATTTGAGTGC--TTGTT-GTTT-TTTTATATT
Mus musculus	GAACAAGCTTCCAGAGAGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Rattus norvegicus	GAACAAGCTTCCAGAGAGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Bos taurus	GAACAAGCTTCCAGAGAGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Sus scrofa	GAACAAGCTTCCAGAGAGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Canis lupus familiaris	GAACAAGCTTCCAGAGAGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Equus caballus	GAACAAGCTTCCAGAGAGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Homo sapiens	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Pan troglodytes	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Gorilla gorilla	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Pongo abelii	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Macaca mulatta	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Callithrix jacchus	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Mus musculus	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Rattus norvegicus	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Bos taurus	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Sus scrofa	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Canis lupus familiaris	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Equus caballus	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Homo sapiens	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Pan troglodytes	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Gorilla gorilla	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Pongo abelii	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Macaca mulatta	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Callithrix jacchus	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Mus musculus	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Rattus norvegicus	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Bos taurus	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Sus scrofa	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Canis lupus familiaris	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA
Equus caballus	TGTGATGACTCTTCCAGAGTGTGTGACAAATTTGAG-AGGTTTGAAGCTTTTAAATAATTTACTATTTTTTCTGATTGTGGTTCA--GTTTAACTGAAG-AAATACCTGAGATTGTGAAGA

Canis lupus familiaris TGCGATAAGCATTCCAGCAGCTGTGACTATTGTTAG-TGATTTGACTTGGAACAATACATTATTTCTTTCTGATTGTGGATAA--TTTAAAGGAAG-AATATCCTGAGATTGTAAGAA
Equus caballus TGTGATAAGAATTCAGCAG--TTGACTATTACTAG-TGATTTGACTCTGAAACAATAAATTATTTCTTTCTGATCATGGATAA--TTTAACTG----AATATCCTGAGAGTATAAGAA

Homo sapiens AAGCATTT-----T-TTAA-----A--AGGTATCACTTGTGATCAATTATCTTTCTCAAAATCTA-----
Pan troglodytes AAGCATTT-----T-TTAA-----A--AGGTATCACTTGTGATCAATTATCTTTCTCAAAATCTA-----
Gorilla gorilla AAGCATTT-----T-TTAA-----A--AGGTATCACTTGTGATCAATTATCTTTCTCAAAATCTA-----
Pongo abelii AAGCATTT-----T-TTAA-----A--AGGTATCACTTGTGATCAATTATCTTTCTCAAAATCTA-----
Macaca mulatta AAGCATTT-----T-TTAA-----A--AGGTATCACTTGTGATCAATTATCTTTCTCAAAATCTA-----
Callithrix jacchus AAGCATTT-----T-TTAA-----A--AGGTATCACTTGTGATCAATTATCTTTCTCAAAATCTA-----
Mus musculus AGGTGGTTGGTTGGTTAATTT-----A--AGTCATCATCTGTGATGGTTATCTTTCTGGAAATATA-----
Rattus norvegicus TGGTATTT-----TTTTTA-----A--AGTCATCATCTGTGATGGTTATCTTTCTGGAAATATA-----
Bos taurus AAGGCTTT-----TATTTAAAAAAAATGTACCACCTGTGAGTACTTACCTTTACAAATAATAGTTCAA-----
Sus scrofa AAGCATTT-----T-TTAAAGAAAG--AGATACCCTATGTGATCAATTATCTTTCTCAAGTTAT-----A-----
Canis lupus familiaris AAGTATTT-----TTGTTAAA-----ACTACCATTGTGAATCAATT-----TCTAAGTTATA-----
Equus caballus AAGTATTT-----TTGTTAAA-----A--AGGTACCATTGTGATCAATTATCTTTCTCAAGTTATAT-----TTTTTTTTTTTAAAGATTTATTTTTTCTCTTTCTCCCCAAAGCC

Homo sapiens -----
Pan troglodytes -----
Gorilla gorilla -----
Pongo abelii -----
Macaca mulatta -----
Callithrix jacchus -----
Mus musculus -----
Rattus norvegicus -----
Bos taurus -----
Sus scrofa -----
Canis lupus familiaris -----
Equus caballus CCTGGTACATAGTTGTATATTCTTCTGTGTGGGTCTTCTAGTTGTGGCATGTGGGACGCTGCCTCAGCGTGGTTGTATGAGCAGTGCCATGTCCGGCCCAAGGATTCGAACCAACGAA

Homo sapiens -----TTT-TTAATACTGTTCCACCAAAGTGATGC-----AGTGGT----
Pan troglodytes -----TTT-TTAATACTGTTCCACCAAAGTGATGC-----AGTGGT----
Gorilla gorilla -----TTT-TTAATACTGTTCCACCAAAGTGATGC-----AGTGGT----
Pongo abelii -----TTT-TTAATACTGTTCCACCAAAGTGATGC-----AGTGGT----
Macaca mulatta -----TTT-TTAATACTGTTCCACCAAAGTGATGC-----AGTGGT----
Callithrix jacchus -----TTT-TTAATACTGTTCCACCAAAGTGATGC-----AGTGGT----
Mus musculus -----GTT-TTAATACTGTCTGACCAAAGTGATAC-----AGTTGT----
Rattus norvegicus -----TTTCTCAACACTGTCCAGCCACAGTGATGTCTGATGGGATTCGCTT-----
Bos taurus -----TTTCTCAACACTGTCCAGCCACAGTGATGT-----GATTGTCCTT-----
Sus scrofa -----TTTCTCAACACTGTCCAGCCACAGTGATGT-----GATTGTCCTT-----
Canis lupus familiaris -----TTTCTCAACACTGTCCAGCCACAGTGATGT-----GATTGTCCTT-----
Equus caballus ACATCGGGCCGCTGCAGCGGAGCGCGGAACCCAAACCATCGGCCACGGGGCAGCCCTCTAAGTTATGTTTTCTCAATACTGTTC-----AAAGTGATAC-----AGTTGT----

Homo sapiens TA-CAATGACACCCCTAATTTTCATGTG---TTTTTGTATTTATGAAAAATAGTTTCA---TTG---TCATTTATGGCGGTATACAAAGTAAATGTTATAAATGTGAAGTTATAAAATAAA
Pan troglodytes TA-CAATGACACCCCTAATTTTCATGTG---TTTTTGTATTTATAAAAAATAGTTTCA---TTG---TCATTTATGGCGGTATACAAAGTAAATGTTATAAATGTGAAGTTATAAAATAAA
Gorilla gorilla TA-CAATGACACCCCTAATTTTCATGTG---TTTTTGTATTTATGAAAAATAGTTTCA---TTG---TCATTTATGGCGGTATACAAAGTAAATGTTATAAATGTGAAGTTATAAAATAAA
Pongo abelii TA-CAATGACACCCCTAATTTTCATGTG---TTTTTGTATTTATAAAAAATAGTTTCA---TTG---TCATTTATGGCGGTATACAAAGTAAATGTTATAAATGTGAAGTTATAAAATAAA
Macaca mulatta TA-CAATGACACCCCTAATTTTCATGTG---TTTTTGTATTTATGAAAAATAGTTTCA---TTG---TCATTTATGGCGGTATACAAAGTAAATGTTATAAATGTGAAGTTATAAAATAAA
Callithrix jacchus TA-CAATGACACCCCTAATTTTCATGTG---TTTTTGTATTTATGAAAAATAGTTTCA---TTG---TCATTTATGGCGGTATACAAAGTAAATGTTATAAATGTGAAGTTATAAAATAAA
Mus musculus TA-CGCTGACACTCTGATTTTCATGTG---TTTTTGTATTTATGAAAAATAGTTTCA---TTG---TCATTTATGGCGGTATACAAAGTAAATGTTATAAATGTGAAGTTATAAAATAAA
Rattus norvegicus GA-CAACTCTAGCTGACTCCACGTG---GCATTATGTCTCTGGGAATAGCTTTGCGGTTG---T-ACCTACCAACAGAATACAGAGTAAATGTTACCACCTGCGGAAGTTACCAAAATAAA
Bos taurus GA-CAACTCTAGCTGACTCCACGTG---GCATTATGTCTCTGGGAATAGCTTTGCGGTTG---T-ACCTACCAACAGAATACAGAGTAAATGTTACCACCTGCGGAAGTTACCAAAATAAA
Sus scrofa -----ATACACCCGGATTTTCATGTG---TTTTTGTATTTGAAAAATGGCCCTCA---TTGTTCTCATGATTTCTCAGT-----AGTAAAGTGTATAAATGTGAAGTTATAAAATAAA
Canis lupus familiaris CATCCAATACACCCGTATTTATGCAATTTTTTTGTATTTATGAAAAATAGTTTCA---TTGTTCTCATGATTTGACACTATACAAAGTAAATGTTATAAATGTGAAGTTATAAAATAAA
Equus caballus ---CAGTATACCATATTTTCATGT---TTTTTGTATTTATGAAAAATGGCCCTCA---TTGTTCTCATGATTTGACACTATACAAAGTAAATGTTATAAATGTGAAGTTATAAAATAAA
CATCCAATGGACCTGATTTTCATGTG---TTTTTGTATTTATGAAAAATGGCCCTCA---TTGTTCTCATGATTTGACACTATACAAAGTAAATGTTATAAATGTGAAGTTATAAAATAAA

Homo sapiens TATATGCTATAAATACTCGAGTT---TT-----TCGTGTTCTCTATPACGTGGT---CTCTATAAAGTACGCTTGAA-----GAAGGAGCTTTGTTACTGAAAA-----
Pan troglodytes TATATGCTATAAATACTCGAGTT---TT-----TCGTGTTCTCTATPACGTGGT---CTCTATAAAGTACGCTTGAA-----GAAGGAGCTTTGTTACTGAAAA-----
Gorilla gorilla TATATGCTATAAATACTCGAGTT---TT-----TCGTGTTCTCTATPACGTGGT---CTCTATAAAGTACGCTTGAA-----GAAGGAGCTTTGTTACTGAAAA-----
Pongo abelii TATATGCTATAAATACTCGAGTT---TT-----TCGTGTTCTCTATPACGTGGT---CTCTATAAAGTACGCTTGAA-----GAAGGAGCTTTGTTACTGAAAA-----
Macaca mulatta TATATGCTATAAATACTCGAGTT---TT-----TCGTGTTCTCTATPACGTGGT---CTCTATAAAGTACGCTTGAA-----GAAGGAGCTTTGTTACTGAAAA-----
Callithrix jacchus TATATGCTATAAATACTCGAGTT---TT-----TCGTGTTCTCTATPACGTGGT---CTCTATAAAGTACGCTTGAA-----GAAGGAGCTTTGTTACTGAAAA-----
Mus musculus TATATGCTATAAATACTCGAGTT---TT-----TCGTGTTCTCTATPACGTGGT---CTCTATAAAGTACGCTTGAA-----GAAGGAGCTTTGTTACTGAAAA-----
Rattus norvegicus TATATGCTATAAATACTCGAGTT---TT-----TCGTGTTCTCTATPACGTGGT---CTCTATAAAGTACGCTTGAA-----GAAGGAGCTTTGTTACTGAAAA-----
Bos taurus TATATGCTATAAATACTCGAGTT---TT-----TCGTGTTCTCTATPACGTGGT---CTCTATAAAGTACGCTTGAA-----GAAGGAGCTTTGTTACTGAAAA-----
Sus scrofa TATATGCTATAAATACTCGAGTT---TT-----TCGTGTTCTCTATPACGTGGT---CTCTATAAAGTACGCTTGAA-----GAAGGAGCTTTGTTACTGAAAA-----
Canis lupus familiaris TATATGCTATAAATACTCGAGTT---TT-----TCGTGTTCTCTATPACGTGGT---CTCTATAAAGTACGCTTGAA-----GAAGGAGCTTTGTTACTGAAAA-----
Equus caballus TATATGCTATAAATACTCGAGTT---TT-----TCGTGTTCTCTATPACGTGGT---CTCTATAAAGTACGCTTGAA-----GAAGGAGCTTTGTTACTGAAAA-----

Homo sapiens TTTTGAGAGATA-AGTTGAGAAAAATCAAGCTAAAGC-----
Pan troglodytes TTTTGAGAGATA-AGTTGAGAAAAATCAAGCTAAAGC-----
Gorilla gorilla TTTTGAGAGATA-AGTTGAGAAAAATCAAGCTAAAGC-----
Pongo abelii TTTTGAGAGATA-AGTTGAGAAAAATCAAGCTAAAGC-----
Macaca mulatta TTTTGAGAGATA-AGTTGAGAAAAATCAAGCTAAAGC-----
Callithrix jacchus TTTTGAGAGATA-AGTTGAGAAAAATCAAGCTAAAGC-----
Mus musculus C-----A-A--AAACAAATCAAGCTAAAGGGGCTGGAGAAATGGCTGCGTGTTAAGAGCACTTGCATCTTCCAGAGGCTCCTGAGCCAGTTTCTAGCACTCATCTGCTG
Rattus norvegicus C-----A-A--AAACAAAGCAGACTGAAGGGGCTGGAGAGGTTGACT---GTGGTTAAGGCACTTGCATCTTCCAGAGCACTGAGCTCAGTTTCTAGCACTCATCTGCTG
Bos taurus TTTTGAGAGATAGAGATTAGAAAAATCAAGCTAAAGC-----
Sus scrofa TTTTGAGAGGTA-AGATTAGAAAAATCAAGCTAAAGC-----
Canis lupus familiaris AATTAATGGACA-AGGTTAGAAAAATCAAGCTAAAGC-----
Equus caballus TTTTGAGAGGTA-AGGTTAGAA-ATCAG-----TT-----

Homo sapiens -----
Pan troglodytes -----
Gorilla gorilla -----
Pongo abelii -----
Macaca mulatta -----
Callithrix jacchus -----
Mus musculus GCTCCTAAGTATCTGTAACCTCAATTTCCAAG-----
Rattus norvegicus GCTCATAAGTACTGTGAACCTCAATTTCCAAGAGGATCTAACACCTTCTTCTGAGGCTCTCAGGGTACCAGCATGTACACGGTATTCCAGAGCACTTAAAAATGAATCTTTAAGCCAGGAGGT
Bos taurus -----
Sus scrofa -----
Canis lupus familiaris -----
Equus caballus -----

Homo sapiens -----
Pan troglodytes -----
Gorilla gorilla -----
Pongo abelii -----
Macaca mulatta -----
Callithrix jacchus -----
Mus musculus GGTGGCGCATGCCCTTTGATCCCAAACTCGGGAGGCGAGAGACAGTCTCTGAGTTTGAAGGCCAGCTGGTCTGCAGAGTGAGTTCTGGGACAGCTACACAGAGAAGCTCTCGTCTTGAAA
Rattus norvegicus -----
Bos taurus -----
Sus scrofa -----
Canis lupus familiaris -----
Equus caballus -----

Homo sapiens -----C---AAAAGGTCTTAGA---ATCCTGTAGGCCA-----GAAACCTGAAAGCAAAAAAT
Pan troglodytes -----C---AAAAGGTCTTAGA---ATCCTGTAGGCCA-----GAAACCTGAAAGCAAAAAAT
Gorilla gorilla -----C---AAAAGGTCTTAGA---ATCCTGTAGGCCA-----GAAACCTGAAAGCAAAAAAT
Pongo abelii -----C---AAAAGGTCTTAGA---ATCCTGTAGGCCA-----GAAACCTGAAAGCAAAAAAT
Macaca mulatta -----C---AAAAGGTCTTAGA---ATCCTGTAGGCCA-----GAAACCTGAAAGCAAAA-
Callithrix jacchus -----C-AA-ATGCTTGAA---CTCCCTAGGCCA-----GAAACCTGAAAGCAAAAAAT
Mus musculus -----C---AAAAGGTCTTAGA---ATCCTGTAGGCCA-----GAAACCTGAAAGCAAAAAAT
Rattus norvegicus AACCAGAAATAAAAACATAATAATAAACTTAAATAAATCAATAAATCGTTAAGTAAAG---AAAAGGTCTTTAA---CTCTCTAGGCCA-----GAAACCTGAGCAGCAGGGA---
Bos taurus -----CACAAAAGATCTTGAA---TTCTCTAGG---AAAAA---AAAAACCTGAGAGCAAAA---AT
Sus scrofa -----C---CAAAGGTCTTAGA---CTCTTTAG---AGAGAA---AAAAACCTGAGAGCAAAA---AT
Canis lupus familiaris -----C---AAAAGGTCTTGAA---CTCATCTAGA---TAGGAAACCTTAAGACAAAA---AT
Equus caballus -----C---AAAAGGTCTTGAACTCTCTAGA---GAAACCAATAAAGCAAAA---AT

Homo sapiens GCTTGAAC-AGAATACTTGAACATATGCTCTCGGGGACAA---GGGAGAGCTCGGTCCACCCATTATCGATTCTCTTTTAAAAATATAC-AGAAACAACAGATGGAGGTCAAGTTGCCTCAG
Pan troglodytes GCTTGAAC-AGAATACTTGAACATATGCTCTCGGGGACAA---GGGAGAGCTCGGTCCACCCATTATCGATTCTCTTTTAAAAATATAC-AGAAACAACAGATGGAGGTCAAGTTGCCTCAG
Gorilla gorilla GCTTGAAC-AGAATACTTGAACATATGCTCTCGGGGACAA---GGGAGAGCTCGGTCCACCCATTATCGATTCTCTTTTAAAAAGTAC-AGAAACAACAGATGGAGGTCAAGTTGCCTCAG

Pongo abelii	GCTTCAAC-AAGAATACTTGAACATATGTCTCCGGGACAA--GGGAGAGCTCGGTCCGCCCATCATCGATTTCCTCTTTTAAAAATATAC-AGAAACAACAGATGGAGGTCAAGTTCGCTCAG
Macaca mulatta	GCTTGAAT-AAGAATACTTGAACATATGTCTCTGGGGACAA--GAGAGAGCTTGATCCACCCATCATCGATTTCCTCTTTTAAAAATATAC-AGAAACAAAAGATGGAGGTCAAGTTCGCTCAG
Callithrix jacchus	GATTGAGT-AAG-----ACAA--GAGAGAGCTCAGTCC-CCCATTTATTGATTTCCTCTTTTAAAAATAGAT-AGAAACAACAGAGGGAGGCCAGGTCTCTCAG
Mus musculus	-----
Rattus norvegicus	CCTAAAGT-AA--GTACTCGTGTGCTGTCTCCAGGAACAA--A--ACAGCTCTGCCACCCACCATTGATTTCCTTATCA--ATGCAC-AGGACC-AGAANTGGA-----
Bos taurus	GCTGGGAT-GGAAATACTTGGACTTGGCTCTCCCAAGATGA--GAGGAGCTTAGTCAACCCATCATCGATTTCCTTTTAACTTACA--AGAAATGACAGATGGAGGCCGGTCCCTTGG
Sus scrofa	GCTGGAATCAGGAGTACTTGGGCTTTGTCTCCAAGATGA--GTGAGAGCTCAGGCCATCCTTCATTGATTTCCTCTTAAATATA--AGAAATGACAGATGGAGGCCAGTTTCCTCAG
Canis lupus familiaris	GCTGA-----AATACTTGAGCTTTGTCTCCAGGCTGAGAGAGAGAGCAGCTCCAC-CATGATCGATTTCCTTTTAAATACA-TGGAGACAACATATGGAGGCTATTTCCTCAG
Equus caballus	GCTGGGA--AAGAATACTGGGGCTTTGTCTCCAGGAGGA--GAAAGAACTCAGTCCACCACCATTGATTTCCTTTTAAATATA--AGAAACGACAGATGGAGGCCAGAACCTCAG
Homo sapiens	AGACCCCCAGCTCATTGTCTAGGAAAGTAACTGTACAGATAAAATTC-CCAGACTCTATTCTGCCAAGGGTGAATGACCTGAAGTGAATATGCTTTCTGGGCTGAAGTCAC--C
Pan troglodytes	AGACCCCCAGCTCATTGTCTAGGAAAGTAACTGTATAGATAAAATTC-CCAGACTCTATTCTGCCAAGGGTGAATGACCTGAAGGTAGAATATGCTTTCTGGGCTGAAGTCAC--C
Gorilla gorilla	AGACCCCCAGCTCATTGTCTAGGAAAGTAACTGTACAGATAAAATTC-CCAGGCTCTATTCTGCCAAGGGTGAATGACCTGAAGGTAGAATATGCTTTCTGGGCTGAAGTCAC--C
Pongo abelii	AGACCCCCAGCTCATTGTCTAGGAAAGTAACTGTACAGATAAAATTC-CCAGGCTCTATTCTGCCAAGGGTGAATGACCTGAAGGTAGAATATGCTTTCTGGGCTGAAGTCAC--C
Macaca mulatta	AGACCCCCAGCTCATTGTCTAGGAAAGTAACTGTACAGATAAAATTC-CCAGGCTCTATTCTGCCAAGGGTGAATGACCTGAAGGTAGAATATGCTTTCTGGGCTGAAGTCAC--C
Callithrix jacchus	AGACTG-CCAACTCATTGTCTAGGAAAGTAACTGTACAGATAAAATTC-CCAGGCTCTATTCCGCTTAGGGTGAATGACCTTAAGGCAGAATATGCTTTCTAGGCTGAAGTCCCTCC
Mus musculus	-----
Rattus norvegicus	-----TCAACTCACTTGCTCAGGAAAGTAAAGTCTCAGACTAGCTCTTCAGGCTGAGCTCGGCCATGGGTGA-----
Bos taurus	AGACCT-CCAGCCCATTTGCTTAGACAAGTAACTGTACCTTGACATTCAACAGCTCTATTCTGCCAAGAGGAAAGTGACCCAAAGGTGAAATCTGCATTTCCTGGATGAAGTC-----
Sus scrofa	AGACCT-CCCACTCCTTTGCCTAGACAAGTAACTGTACAGAGGCACTCACCAGGCTCTATTCTGCCAAGAGTCAAAATGACCTAAAGGTGAAATCTACATATTCCTGGTTGGAGTC-----
Canis lupus familiaris	AGACCT-CCAACTCAT--CTTGGCAAGTTACTGTACAGATAAAATTCGCCA-TGCTATTCTGCCAAGAGTGAATTAACCTAGAGGTGAAATATTTGTCTTTTGGATGAAGTC-----
Equus caballus	AGACCT-CCAACTCATTGTCTAAGCAAGGAAGTGTACAGACAATTCACCAACCTCTATTCTGCCAAGGGTGAATGAGTGAAGGTGAACATTACACTTTTGGATGAANN-----
Homo sapiens	CTTTTCTTC--TTCCTC-----TCTCTCTTTTTTTTGAGACAAGGTGTCAACCAAGGCTGGAGTATAGTGGCACAATCTCGGCTCACTGCACAACTCTGCCTACCACTTCAAGTGATT
Pan troglodytes	CTTTTCTTC--TT-----CTCTCTTTTTTTTGAGACAAGGTGTCAACCAAGGCTGGAGTATAGTGGCACAATCTCGGCTCACTGCACAACTCTGCCTACCACTTCAAGTGATT
Gorilla gorilla	CTTTTCTTC--TT-----TTTTTTTTTTTTTTTGAGACAAGGTGTCAACCAAGGCTGGAGTATAGTGGCACAATCTCGGCTCACTGCACAACTCTGCCTACCACTTCAAGTGATT
Pongo abelii	CTTTTCTTC--TTCCTCTCTTTTTTTTTTTTTTTTGAGACAAGGTGTCAACCAAGGCTGGAGTATAGTGGCACAATCTCGGCTCACTGCACAACTCTGCCTACTGCTTCAAGTGATT
Macaca mulatta	CTTTTCTTC--TTTT--TCTTTTTTTCTTTTTTTTTTTTGAGACAAGGTGTCAACCAAGGCTGGAGTACAGTGGTGAATCTCGGCTCACTGCACAACTCTGCCTACTGCTTCAAGTGATT
Callithrix jacchus	CTTTTCTTCCTGTTTTTTTTTTTTTTTTTTTTTTTGAGATAAGGTGTCAACCAAGGCTAGAGTGTAGTCACACGATCATGGCTCACTGCACAAAT--TGCTTACCAATTTGAGTGATT
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----
Homo sapiens	CTCATGCCTCAGCTTCCCGAGTAGCTGGGATTACAGGGGTGCACCACCACTTCCAGCTAAGTTTTTGATTTTTTAGTAGAGACAGGGTTTCACTAT
Pan troglodytes	CTCATGCCTCAGCTTCCCGAGTAGCTGGGATTACAGGGGTGCACCACCACTTCCAGCTAAGTTTTTGATTTTTTAGTAGAGACAGGGTTTCACTAT
Gorilla gorilla	CTCATGCCTCAGCTTCCCGAGTAGCTGGGATTACAGGGGTGCACCACCACTTCCAGCTAAGTTTTTGATTTTTTAGTAGAGACAGGGTTTCACTAT
Pongo abelii	CTCATGCCTCAGCTTCCCGAGTAGCTGGGATTACAGGGGTGCACCACCACTTCCAGCTAAGTTTTTGATTTTTTAGTAGAGACAGGGTTTCACTAT
Macaca mulatta	CTCATGCCTCAGCTTCCCGAGTAGCTGGGATTACAGGGGTGCACCACCACTTCCAGCTAAGTTTTTGATTTTTTAGTAGAGATGGGGTTTCACTCT
Callithrix jacchus	CTTAGGCCTCAGCTCTCGGGTAGCTGGGATTACAGGGCTGCGGCCACCACAGCCCACTAA-TTTTTGATTTTTTAGTAGACGTGGGGTTTCACTGT
Mus musculus	-----
Rattus norvegicus	-----
Bos taurus	-----
Sus scrofa	-----
Canis lupus familiaris	-----
Equus caballus	-----