

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180

BSH75_banu TTTCGT CAGAGCCAAGACTATGCCTACCCCGCGTTACTATCACCCAAATGCGTTTGTCTGGTATACGGTAAGATTTTG CAGTTAATGCCCTACCCATGGGGGACAATTGGGGCTGACTCGCGTTTGCCTGGCGGAAGCTTATATGAGGTATTAGCCTCTCTAGCCATTCTACGGCCCGCT

BSH74_nur

BSH74_sol

BSH74_shz

NEP73_175 .C. .CT. .G

SAF65_103 .CT. .T.G. .A. .G

SAF65_102 .CT. .T.G. .A. .G

BOT72_143 .CT. .T.G. .A. .G

BOT73_225 .CT. .T.G. .A. .G

CNG70_227 .CT. .A.T.G. .A. .A. .A

CNG70_46 .CT. .A.T.G. .A. .A.

TAN65_kem .CT. .A.T.G. .A. .A.

SOM77_1252 .T. .A. .CT. .T. .T.G. .A. .A.

SOM77_1605 .T. .A. .CT. .T. .T.G. .A. .A.

SOM77_ali .T. .A. .CT. .T. .T.G. .A. .A. .T.

SUD47_jub .CT. .T. .T.G. .A. .A.

SUD47_rum .CT. .T. .T.G. .A. .A.

ETH72_16 .T. .CT. .T. .T.G. .A. .A.

ETH72_17 .T. .CT. .T. .T.G. .A. .A.

UNK47_hig .CT. .G

GER_hdlg .CTT. .G

IND53_mad .CT. .T.T. .G

IND67_mah .G. .T. .T.C. .C. .C. .A. .G. .C.

SUM70_222 .CT. .A. .TG. .T.

SUM70_228 .CT. .A. .TG. .T.

IND64_vel4 .G. .CT. .T. .A. .G

IND64_vel5 .G. .CT. .T. .A. .G

IRN72_tbrz .CT. .T. .G

YUG72_164 .CT. .T. .G

AFG70_vlt4 .CT. .T. .G

KUW67_1629 .CT. .T. .G

PAK69_lah .CT. .T. .G

SYR72_119 .CT. .T. .G

UNK46_harv .CT. .G

UNK46_hind .CT. .A. .G. .A. .A

JAP46_yam .CT. .G

JAP51_hrpr .CT. .G. .A.

JAP51_stw1 .CT. .T. .G. .A.

KOR47_lee .CT. .G

CHN48_horn .CT. .G

BEN68_59 .G. .A. .T.C. .C.CT. .G.C. .G. .C. .T.G.A.A.

NIG69_001 .G. .A. .T.C. .C.CT. .G.C. .G. .C. .T.GATA. .T.

SLN68_258 .G. .A. .A. .T.C. .C.CT. .G.C. .G. .C. .T.G.A.A.

GUI69_005 .G. .A. .A. .TGC. .C.CT. .G.C. .G. .C. .T.G.A.A.

BRZ66_gar .G. .A. .CT. .T. .C.CT. .G.C. .T. .C. .T. .T.G.A. .T.

BRZ66_39 .G. .A. .T. .T. .C.CT. .G.C. .T. .C. .T.G.A. .T.

UNK52_but .G. .A. .T. .T. .C.CT. .G.C. .T. .C. .T.G.A. .T.

CML96_m96 CCG.C.GCG.AGCAG. .C.ACGTA.T.TTCCC. G. .G. .CCA.CCCACT.AACGAT.AC GGAG.CCT.G.CGG.CA. .CG.G.GC. .T.GTGGC. . .C.GTCTAA.ACC.TA.CATTA.A.GATCCTCGC.G. .GCCGATA.AG.CG. .AG.C. .TCT. . .C

CML70_CMS CCG.C.GCG.AGCAG. .C.ACGTA.T.TTCC. G. .G. .CCA.CCCACT.AACGAT.AC GGAG.CCT.G.CGG.CA. .CG.G.GC. .T.GTGGC. . .C.GTCTAA.ACC.TA.CATTA.A.GATCCTCGC.G. .GCCGATA.AG.CG. .AG.C. .TCT. . .C

TATV68_dah CCG.C.G.G.T. .GT. .CT. .CG. .T. .T.C.ACG. .T. .CC.T. .AC. .A.C.ATT. .CGG.G.CCT.G.CGGGC. .T. .CG.G.GCT. .A.GTG. .CA.A. .C.G.CTA. .ACC. . .TAG. .GA.CCGCGC.GT.AGCCG.T. .G.C. .AG.C.ACT. .ATT.C

190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360
 BSH75_banu CGAGATGTTGGTACGGCTCGCTACCATACCCCCCGAGATCCGGCTGAAACCCCATTTTACGTTATCAAGCTGAACCCACTCCGCGGGGTGATAGCAATAGCCGACAGCGAGTCCCTCCGACTGCAGCTGCGTGTTTACCATGAATGCAGCTGACTGGTTTGAGTTAACGCACGGCGAACT
 BSH74_nur
 BSH74_sol
 BSH74_shz
 NEP73_175
 SAF65_103T.....T.....T.....C.....G.....C.....
 SAF65_102T.....T.....T.....C.....G.....
 BOT72_143T.....T.....T.....C.....G.....A.....G.....
 BOT73_225T.....T.....T.....C.....G.....A.....G.....
 CNG70_227T.....T.....T.....C.....G.....
 CNG70_46T.....T.....T.....C.....G.....
 TAN65_kemT.....T.....T.....C.....G.....
 SOM77_1252 T.....A.....C.T.....T.....A.....G.....T.....
 SOM77_1605 T.....A.....C.T.....T.....A.....G.....T.....
 SOM77_ali T.....A.....C.T.....T.....A.....G.....T.....
 SUD47_jubT.....T.....T.....C.....G.....
 SUD47_rumT.....T.....T.....C.....G.....
 ETH72_16T.....T.....T.....C.....G.....
 ETH72_17T.....T.....T.....C.....G.....
 UNK47_higT.....T.....T.....C.....G.....
 GER_hdlgT.....T.....T.....C.....G.....T.....
 IND53_madT.....T.....T.....C.....G.....G.....
 IND67_mahC.....C.....C.....G.....C.....G.....T.....GA.....T.....A.....
 SUM70_222T.....T.....T.....C.....G.....A.....G.....C.....G.....T.....
 SUM70_228T.....T.....T.....C.....G.....A.....G.....C.....G.....T.....
 IND64_vel4T.....T.....T.....C.....G.....A.....G.....C.....G.....
 IND64_vel5T.....T.....T.....C.....G.....A.....G.....C.....G.....
 IRN72_tbrzT.....T.....T.....C.....G.....A.....G.....C.....G.....
 YUG72_164T.....T.....T.....C.....G.....A.....G.....C.....T.....
 AFG70_vlt4T.....T.....T.....C.....G.....A.....G.....C.....G.....
 KUW67_1629T.....T.....T.....C.....G.....A.....G.....C.....G.....
 PAK69_lahT.....T.....T.....C.....G.....A.....G.....C.....G.....
 SYR72_119T.....T.....T.....C.....G.....A.....G.....C.....G.....
 UNK46_harvT.....T.....T.....C.....G.....A.....G.....C.....G.....
 UNK46_hindT.....T.....T.....C.....G.....A.....G.....C.....T.....
 JAP46_yamT.....T.....T.....C.....G.....A.....G.....C.....C.....
 JAP51_hrprT.....T.....T.....C.....G.....A.....G.....C.....C.....
 JAP51_stw1T.....T.....T.....C.....G.....A.....G.....C.....C.....
 KOR47_leeT.....T.....T.....C.....G.....A.....G.....C.....C.....
 CHN48_hornT.....T.....T.....C.....G.....A.....G.....C.....A.....
 BEN68_59C.....G.....T.....CA.....C.....C.T.....AC.....T.....G.....G.....C.....T.....A.....A.T.A.....C.....A.....
 NIG69_001C.....G.....T.....T.....CA.....C.....C.T.....AC.....G.....G.....C.....A.....A.T.A.....C.....A.....
 SLN68_258C.....G.....T.....CA.....C.....C.T.....AC.....G.....G.....C.....C.T.A.....A.T.A.....C.....A.....
 GUI69_005C.....G.....T.....CA.....C.....C.T.....AC.....G.....G.....C.....T.....A.....A.T.A.....C.....A.....
 BRZ66_garC.....G.....A.....A.....C.....C.....C.T.....C.....G.....C.....C.....A.....A.T.A.....C.....AC.....
 BRZ66_39C.....G.....A.....A.....C.....C.....C.T.....C.....G.....C.....A.....A.....C.....A.....A.T.A.....C.....AC.....
 UNK52_butC.....G.....A.....A.....C.....C.....C.T.....C.....G.....C.....A.....A.....C.....A.....A.T.A.....C.....AC.....
 CML96_m96 .AGA.CAC.G.T.T.A..AATGG.TGCGG.A..AG.GCA.ATT..GCT..G.CCG.T.CCGCTCGAAC..AAG.C.T.T..TG.CC.A.GCGATA.G.GC..CT.CC.A..CATC..AA.C..GC..T.C.GGCA.GAC.GTCAACCCA.A.C.GTTAGT..A.GG.G
 CML70_CMS .AGA.CAC.G.T.T.A..AATGG.TGCGG.A..AG.GCA.ATT..GCT..G.CCG.T.CCGCTCGAAC..AAG.CTT.T..TG.CC.A.GCGATA.G.GC..CT.CC.A..CATC..AA.C..GC..T.C.GGCA.GAC.GTCAACCCA.A.C.GTTAGT..A.GG.G
 TATV68_dah ..GAGC..GA..G..T.CAA.GG..GCG.....G.GC.....T.C.CTT..G.CC..CTTCCG.C..G.C.....G.C..TA.....CC.T.GC.G.T..G.GC.CC.C..CCA.....C..CT.....ACT.GC..T.....GCA.G.C.GTC.ACCCA..A.CGG...G..AA.GGA.

370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530 540

BSH75_banu TGACTACCATCAGCGCGCTGTGTCTAGTGTCCGATGGCGTCCGAACTATGTGAGTAGTGCAATTGACTGACGGTTCTCAAGTTAGAAACACATGTCCCTTGCCCGGATATACCAGAACGGGATACCTTCAGCGATACGACAAAACCGCTTCTCCAAATAGCGTATATTCCGACTGGCCAAAA

BSH74_nur

BSH74_sol

BSH74_shz

NEP73_175

SAF65_103

SAF65_102

BOT72_143

BOT73_225

CNG70_227

CNG70_46

TAN65_kem

SOM77_1252

SOM77_1605

SOM77_ali

SUD47_jub

SUD47_rum

ETH72_16

ETH72_17

UNK47_hig

GER_hdlg

IND53_mad

IND67_mah

SUM70_222

SUM70_228

IND64_vel4

IND64_vel5

IRN72_tbrz

YUG72_164

AFG70_vlt4

KUW67_1629

PAK69_lah

SYR72_119

UNK46_harv

UNK46_hind

JAP46_yam

JAP51_hrpr

JAP51_stw1

KOR47_lee

CHN48_horn

BEN68_59

NIG69_001

SLN68_258

GUI69_005

BRZ66_gar

BRZ66_39

UNK52_but

CML96_m96

CML70_CMS

TATV68_dah

CAG.CG..GCTC..T.CTC.CAA.CG.GAC.T.C.A.TT..TT.GTCGC..AG.GGACTT.C.AG.C.T...C.ACAG..CC.C.G.G.GG.ATA.CC..TGA..CGCGTA..GG...AGCGT.CG.CT.AGGGTA...C.G..ATCCT...TGG.G.T...CGC...G.C..T.C.GT

CAG.CG..GCTC..T.CTC.CAA.CG.GAC.T.C.A.TT..TT.GTCGC..AG.GGACTT.C.AG.C.T...C.ACAG..CC.C.G.G.GG.ATA.CC..TGA..CGCGTA..GG...AGCGT.CG.CT.AGGGTA...C.G..ATCCT...TGG.G.T...CGC...G.C..T.C.G.

CAG.C...GC.C...TCTCAC.A.CG...C.T.C...C.T.G.CG.A.GTGGACT.GCCAG.CTG.A.CC.C.GG.CCG.GGTG.GG...TCCT.TGAA.CGCG...TGG...CGT.CG.CT.AGA.TA..G.GG..A.CC..A.TGG.GA...TCGCCA..G.C.A..CGG.

550 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700 710 720
 BSH75_banu AACTTGCTGACGATGGGTAGATTTGACGGGGTGCCGGGTCCCTCGTTGCGCTAGCACCCCGCTAAACCTCTCGGCCCATCTCCTGCACGTGAAACAAATAATCGAGCACGTGACGACGAGGTCCATGCACCTTCGGTCCATGCGGGTGTGCATCTTTCCCTATAACATAAACCAGTGCAAA
 BSH74_nur
 BSH74_sol
 BSH74_shz
 NEP73_175 ..G.....A.....
 SAF65_103C.....T.....T.T.....
 SAF65_102A.....C.....T.....T.....C.....
 BOT72_143C.....T.....T.....A.....
 BOT73_225C.....T.....T.....A.....
 CNG70_227T.....T.....T.....
 CNG70_46T.....T.....T.....T.....
 TAN65_kemT.....T.....T.....T.....
 SOM77_1252T.....T.....T.....T.....
 SOM77_1605T.....T.....T.....T.....A.....
 SOM77_aliT.....T.....T.....T.....
 SUD47_jubT.....T.....T.....T.....
 SUD47_rumT.....T.....T.....T.....
 ETH72_16T.....T.....T.....T.....
 ETH72_17T.....T.....T.....T.....
 UNK47_higT.....
 GER_hdlg
 IND53_madT.....
 IND67_mahA.....GCA.....C.CCC..C.....
 SUM70_222 ..A.....A.....A.....C.....A.....
 SUM70_228 ..A.....A.....A.....C.....A.....
 IND64_vel4 ..G.....
 IND64_vel5 ..G.....A.....
 IRN72_tbrz ..G.....A.....
 YUG72_164 ..G.....A.....
 AFG70_vlt4 ..G.....A.....
 KUW67_1629 ..G.....
 PAK69_lah ..G.....A.....
 SYR72_119 ..G.....A.....
 UNK46_harvT.....
 UNK46_hind
 JAP46_yamT.....
 JAP51_hrprT.....
 JAP51_stw1T.....
 KOR47_leeA.....
 CHN48_hornA.....
 BEN68_59 ...C.....A.....A.....A.....A.....A.....C.....A.....A.....T.....G.....G.....
 NIG69_001 ...C.....T.....A.....T.....A.....A.....A.....A.....A.....C.....A.....A.....T.....G.....G.....
 SLN68_258 ...C.....A.....A.....A.....A.....A.....A.....A.....C.....A.....A.....T.....G.....G.....
 GUI69_005 ...C.....A.....A.....A.....A.....A.....A.....A.....C.....A.....A.....T.....G.....G.....
 BRZ66_gar ...T.C.....A.....T.....A.....A.....T.....A.T.....T.....G.....C.....A.....A.....A.....T.....G.....G.....
 BRZ66_39 ...T.C.....A.....T.....A.....A.....T.....A.T.....T.....G.....C.....A.....A.....A.....T.....G.....G.....
 UNK52_but ...T.C.....A.....T.....A.....A.....T.....A.T.....T.....G.....C.....A.....A.....A.....T.....G.....G.....
 CML96_m96 ..G..C.T.GAG.ACC..TCGTGCCCG.GATCAAC.T...C...CA.CC.T..CGAAGT.T...ACGGTT.C.CAAT..TT...CA.C.G.GA.A.GG.GGGCGGC..GATGAC.G.AG..G..G..GCC.G.C.AT.A..C...TCTGC.G.T...TA.G.GGT.CGGTTGCC..GGG
 CML70_CMS ..G..C.T.AG.ACC..TCGTGCCCG.GATCAAC.T...C...CA.CC.T..CGAAGT.T...ACGGTT.C.CAATA..TT...CA.C.G.GA.A.GG.GGGCGGC..GATGAC.G.AG..G..G..GCC.G.C.AT.A..C...TCTGC.G.T...TA.G.GGT.CGGTTGCC..GGG
 TATV68_dah GG..C...G.A.CA.TCG.GCC..GA..A.CA.T.A.CT.TC..CC.T..C.AAG.T...A.CGG..C.CAA..T.T.G..C..CTG...A.GG.G.GCGGC..G..GACTGTAG..G...GCC.G.CG..T.AA.C..T.C.GC.G...G.GG.G.GG..G.C..GGG

730 740 750 760 770 780 790 800 810 820 830 840 850 860 870 880 890 900

BSH75_banu CGCCACCTGGCACTCGTGCTTCAAGGTCGGCGCGGTAGTGTACATCTACAGGTCGGTAGGTACTAGCATTATTGACCCCTCGGCATCGAATAATCACCTGCATCTTTTCGATGATGGAAAAATAAAGAGCGAAACATAGCCGACATTGTCTAACTTAATAGCAAATCGACAGATTACTC
 BSH74_nur
 BSH74_sol
 BSH74_shz
 NEP73_175
 SAF65_103T.....C.....T.....T.....C.....
 SAF65_102C.....T.....T.....C.....
 BOT72_143T.....C.....T.....T.....C.....
 BOT73_225T.....C.....T.....T.....C.....
 CNG70_227C.....T.....A.....C.....
 CNG70_46CT.....T.....C.....
 TAN65_kemC.....T.....C.....
 SOM77_1252T.....T.....C.....T.....A.....C.....
 SOM77_1605T.....T.....C.....T.....A.....C.....
 SOM77_aliT.....T.....C.....T.....A.....C.....
 SUD47_jubC.....T.....T.....C.....
 SUD47_rumC.....T.....G.....T.....C.....
 ETH72_16T.....C.....T.....T.....A.....C.....
 ETH72_17T.....C.....T.....T.....A.....C.....
 UNK47_higT.....C.....C.....C.....
 GER_hdlgA.....A.....C.....A.....C.....
 IND53_madT.....C.....C.....C.....
 IND67_mahC.....G.....C.....C.....
 SUM70_222C.....C.....C.....G.....C.....
 SUM70_228T.....C.....C.....C.....G.....C.....
 IND64_vel4C.....A.....A.....G.....G.....C.....G.....
 IND64_vel5C.....A.....A.....G.....C.....C.....G.....
 IRN72_tbrzC.....A.....A.....G.....C.....C.....G.....
 YUG72_164C.....A.....A.....G.....C.....C.....G.....
 AFG70_vlt4C.....A.....A.....G.....C.....C.....G.....
 KUW67_1629C.....A.....A.....G.....G.....C.....G.....
 PAK69_lahC.....A.....A.....G.....C.....C.....G.....
 SYR72_119C.....A.....A.....G.....C.....C.....G.....
 UNK46_harvC.....T.....T.....C.....G.....
 UNK46_hindC.....C.....C.....C.....G.....
 JAP46_yamC.....A.....C.....C.....G.....T.....
 JAP51_hrprC.....A.....C.....C.....G.....
 JAP51_stw1C.....A.....C.....C.....G.....
 KOR47_leeT.....C.....A.....C.....C.....G.....
 CHN48_hornC.....A.....C.....C.....G.....
 BEN68_59C.....G.....T.....A.....T.....C.....GT.....AT.....T.....A.....G.....G.....A.....C.....C.....GG.....G.....C.....
 NIG69_001C.....G.....T.....A.....T.....C.....GT.....AT.....T.....A.....G.....G.....A.....C.....C.....GG.....G.....A.....C.....
 SLN68_258C.....G.....T.....A.....T.....A.....C.....GT.....AT.....T.....A.....G.....G.....A.....C.....C.....GG.....G.....C.....
 GUI69_005C.....GT.....A.....T.....C.....GT.....AT.....T.....A.....G.....G.....A.....C.....C.....GG.....G.....C.....
 BRZ66_garT.....A.....C.....C.....G.....T.....A.....C.....GT.....AT.....T.....A.....G.....G.....A.....C.....C.....GG.....G.....C.....
 BRZ66_39T.....A.....C.....C.....G.....T.....A.....C.....CGT.....T.....A.....G.....G.....A.....C.....C.....GG.....G.....C.....
 UNK52_butT.....A.....C.....C.....G.....T.....A.....C.....CGT.....T.....A.....G.....G.....A.....C.....C.....GG.....G.....C.....
 CML96_m96 T...TG...C...G...A.CCAAG.ATCTTT...AACGT.CC.TGC..G.GC.C...CG..CG..G.TGCA.CC.GTT.C.AT.TCAA.GCGGC.GA...GCTCCCC...AT.AAATGGCGGGGT.C..AG.G.GC..A..GTGCCACTCGGACCGGGGA.GGCC...G.G.CGACA
 CML70_CMS T...TG...C...G...A.CCAAG.ATCTTT...AACGT.CC.TGC..G.GC.C...CG..CG..G.TGCA.CC.GTT.C.AT.TCAA.GCGGC.GA...GCTCCCC...AT.AAATGGCGGGGT.C..G.G.GC..A..GTGCCACTCGGACCGGGGA.GGCC...G...CGACA
 TATV68_dah ...T.G.C.A.G...CA.CCAAGG..CT.T..AAACG.A.CG.G...G.G..C.T.CG..CG.GGTT.CA..C.GT...T...C.A.GCGGTG..AT.GCTCCCC..GA.....GGCGG.G.C.T.G.GTGC..A..GTGCC.C.CG..CCGG.G..GGCCT..AG...CG.C

910 920 930 940 950 960 970 980 990 1000 1010 1020 1030 1040 1050 1060 1070 1080

BSH75_banu C T A T C G G T A G C A C T T T C G A A G G C G C A A T G G G C A A G A A C G C A A C G A T T G T T C G T A A T C G C A A T G T A A G A A T G G T C C G G C G A C C G A G A G G C A A A C C T T G C T T T A T A G C C T G G C A C A C C T G G A G C T G A G T T A T T C A C A T A A A G G T A A G T G A T G C C C A A C G C T C T A C A T C G T C C T C T C A T C

BSH74_nur

BSH74_sol

BSH74_shz

NEP73_175

SAF65_103 . A A C .

SAF65_102 A C .

BOT72_143 T A C .

BOT73_225 T A C .

CNG70_227 A C .

CNG70_46 A C .

TAN65_kem

SOM77_1252

SOM77_1605

SOM77_ali . A C .

SUD47_jub T A C .

SUD47_rum

ETH72_16 T C .

ETH72_17 T C .

UNK47_hig

GER_hdlg A A C .

IND53_mad G C .

IND67_mah T C .

SUM70_222 T T A G C C T T C .

SUM70_228 T T A C C T T C .

IND64_vel4 T T C C T T C .

IND64_vel5 T T C C C C C .

IRN72_tbrz T T C C C C C .

YUG72_164 T T C C C C C .

AFG70_vlt4 T T C C C C C .

KUW67_1629 T T C C C C C .

PAK69_lah T T C C C C C .

SYR72_119 T T C C C C C .

UNK46_harv T T C C T C .

UNK46_hind T T C C C C .

JAP46_yam T T C C G C .

JAP51_hrpr T T C C G C .

JAP51_stw1 T T C C G C .

KOR47_lee G . T C C C C C .

CHN48_horn T T C A C C C .

BEN68_59 T T A . G . . G . T T T . G G C . . G G . T . . G . C T T C A C G C . T . T .

NIG69_001 T T A . G . . G . T T T . G G C . . G G . T . . G . C T T C A C C . T . T .

SLN68_258 T T A . G . . G . T T T . G G C . . G G . T . . G . C T T C A C C . T . T .

GUI69_005 T T A . G . . G . T T T . G G C . . G G . T . . G . C T T C A C C . T . T .

BRZ66_gar A A T A . G . . G T T T . G G C . . G G . T . . G . C . T T T C C C . T .

BRZ66_39 A T A . G . . G T T T . G G C . . G G . T . . G . C . T T T C C C . T .

UNK52_but A T A . G . . G T T T . G G C . . G G . T . . G . C . T T T C C C . T .

CML96_m96 . C G G . . C G . T G . C A A . A G . T A A T G G C A A . . G G A G G T A . G G T . C C T A G . . G G . T . G G C T C G C . G . A . A A . T . A A T G T C A A . G G G . A A C . T . C C G G C C . T T C . A . G A T . . A A A G . C . G C C A G C C . G . G C G G . . C G G . . G C A A . . G . T A T C A C G . C A A C . T C . C T G C T

CML70_CMS . C G G . . C G . T G . C A A . A G . T A A T G G C A A . . G G A G G T A . G G T . C C T . G . . G G . T . G G C T C G C . G . A . A A . T . A A T G T C A A . G G G . A A C . T . C C G G C C . T T C . A . G A T . . A A A G . C . G C C A G C C . G . G C G G . . C G G . . G C A A . . G . T A T C A C G . C A A C . T C . C T G C T

TATV68_dah . C . G . T . C . G . . G . C C C . . T . . . G C . . . T . G G . G G . . G . . . C . T . G . A G G C . T . G G C . C . C . G G . . . A . C A T . . . T G A C . . T . G G T A . C . . C C . G C C A . . C . . G . T . . A G T . C . G . C A . C C A G A G C G G . . A C G G . . T G C A . . G . . T C . G C . T C . . C T T C . C . G C .

1090 1100 1110 1120 1130 1140 1150 1160 1170 1180 1190 1200 1210 1220 1230 1240 1250 1260

BSH75_banu CCGGGCTTATACAACGCTTAGGAGGAGTCTCTATTTAGCACGCTTGGAGTCTTTCACATTAAGAGCCTAAAGTCCCGGAGTAGACCGGTCTACGAGCCTATAACCATGAGAAAATCTCTGTCACCCATGAAATGCACCGACTATGACGGGAACAATATACAAACCTCCGCGACTCACT
 BSH74_nur
 BSH74_sol
 BSH74_shz
 NEP73_175
 SAF65_103
 SAF65_102
 BOT72_143
 BOT73_225
 CNG70_227
 CNG70_46
 TAN65_kem
 SOM77_1252
 SOM77_1605
 SOM77_ali
 SUD47_jub
 SUD47_rum
 ETH72_16
 ETH72_17
 UNK47_hig
 GER_hdlg
 IND53_mad
 IND67_mah
 SUM70_222
 SUM70_228
 IND64_vel4
 IND64_vel5
 IRN72_tbrz
 YUG72_164
 AFG70_vlt4
 KUW67_1629
 PAK69_lah
 SYR72_119
 UNK46_harv
 UNK46_hind
 JAP46_yam
 JAP51_hrpr
 JAP51_stwl
 KOR47_lee
 CHN48_horn
 BEN68_59
 NIG69_001
 SLN68_258
 GUI69_005
 BRZ66_gar
 BRZ66_39
 UNK52_but
 CML96_m96
 CML70_CMS
 TATV68_dah

1270 1280 1290 1300 1310 1320 1330 1340 1350 1360 1370 1380 1390 1400 1410 1420 1430 1440
 BSH75_banu TATGACTTGAGGGGTGGACCCGCGATAGGTGTTAGTTGGTCATGGTAGCGTGTTCCTTACGAACTAATATGCCGCGCCTTGGGGTCATATGTAATCCATCGCTGGGCGATCACCTGGACTTCATCGACTCAATCATGTCCTCGCTTTCTATACGTTGCCTACACTCACTTAATGTGCAATA
 BSH74_nur
 BSH74_sol
 BSH74_shz
 NEP73_175
 SAF65_103
 SAF65_102
 BOT72_143
 BOT73_225
 CNG70_227
 CNG70_46
 TAN65_kem
 SOM77_1252
 SOM77_1605
 SOM77_ali
 SUD47_jub
 SUD47_rum
 ETH72_16
 ETH72_17
 UNK47_hig
 GER_hdlg
 IND53_mad
 IND67_mah
 SUM70_222
 SUM70_228
 IND64_vel4
 IND64_vel5
 IRN72_tbrz
 YUG72_164
 AFG70_vlt4
 KUW67_1629
 PAK69_lah
 SYR72_119
 UNK46_harv
 UNK46_hind
 JAP46_yam
 JAP51_hrpr
 JAP51_stw1
 KOR47_lee
 CHN48_horn
 BEN68_59
 NIG69_001
 SLN68_258
 GUI69_005
 BRZ66_gar
 BRZ66_39
 UNK52_but
 CML96_m96
 CML70_CMS
 TATV68_dah

1450 1460 1470 1480 1490 1500 1510 1520 1530 1540 1550 1560 1570 1580 1590 1600 1610 1620

BSH75_banu GGCATCTCCGACGTAGGCACGTGTCACCCGCCCATGGGCTGTGCTTTTCTGTTTCTGCCACGTTTCAGTGAACGAGCATTCCGCCCCGCCACGGGGCTGGGTGAAGTTCCTGAGCGGTAAAGCGTCTTAGAACCGGACCTCGATCGTATCCAACGCCAAGGAACGTGTTTCATCGTGTAA
BSH74_nur
BSH74_sol
BSH74_shz
NEP73_175
SAF65_103T
SAF65_102A...T
BOT72_143T...A...T
BOT73_225T...A...T
CNG70_227T...A...T
CNG70_46T...A...T
TAN65_kemT...T
SOM77_1252T...T
SOM77_1605T...T...T
SOM77_aliT...T...T
SUD47_jubT...T...T
SUD47_rumT...T...G...T
ETH72_16T...T...T
ETH72_17T...T...T
UNK47_higT...T...T
GER_hdlgT...C...T...C
IND53_madT...T...T
IND67_mahA...T...T
SUM70_222T...T...T
SUM70_228T...T...T
IND64_vel4T...A...T
IND64_vel5T...A...T
IRN72_tbrzT...A...T
YUG72_164T...A...T
AFG70_vlt4T...A...T
KUW67_1629T...A...T
PAK69_lahT...A...T
SYR72_119T...A...T
UNK46_harvA...T...C...G...T
UNK46_hindT...T...C...G...T
JAP46_yamT...T...C...A...T
JAP51_hrprT...T...C...A...T
JAP51_stw1T...A...C...A...T
KOR47_leeT...T...C...A...TT
CHN48_hornT...A...C...T
BEN68_59 A...T...A...C...C...C...T...C...T...TA...T...C...T...A...A...AA...G...C...C...T...T...G...T...A...G...T...C...
NIG69_001 A...T...T...A...T...C...C...A...C...T...C...T...TA...T...C...T...G...A...A...AA...G...C...C...T...T...T...G...T...A...G...T...C...
SLN68_258 A...T...A...C...C...C...C...T...C...T...TA...T...C...TA...A...A...AA...G...C...C...T...T...T...G...A...T...G...T...C...
GUI69_005 A...T...A...C...C...C...C...T...C...T...TA...T...C...T...A...A...AA...G...C...C...T...T...T...G...T...A...G...T...C...
BRZ66_gar A...T...A...C...C...A...C...C...T...C...T...C...T...AA...A...A...G...C...TC...A...T...G...T...T...A...G...T...C...
BRZ66_39 A...T...A...A...C...A...C...C...T...C...T...A...C...T...AA...A...A...G...C...TC...A...T...G...T...T...A...G...T...C...
UNK52_but A...T...A...C...C...A...C...C...C...T...C...T...C...T...AA...A...A...G...C...C...C...A...T...G...T...T...A...G...T...C...
CML96_m96 ..TTCTC...GTACG.T.GT.CG..G..AT.ATTG.T.TCAC..CCCC.G.CCCCTC.TTGT..CC.GTCAGG..G..GCCT..AG...TA..C..AC.GGA.CTT.CACT.AAC.GA..C.CCCA.G.TT.GTTC..GCT..GC.AGG.ATTG.TG.TCTC.GGC.A.ACC.C
CML70_CMS ..TTCTC...GT.CG.T.GT.CG..G..AT.ATTG.T.TCAC..CCCC.G.CCCCTC.TTGT..CC.GTCAGG..G..GCCT..AG...TA..C..AC.GGA.CTT.CACT.AAC.GA..C.CCCA.G.TT.GTTC..GCT..GC.AGG.ATTG.TG.TCTC.GGC.A.ACC.C
TATV68_dah ..TCTC.T.G..CG..TG..C..T...TT...AT.TCAC.TCCCCTG.CCCC.CA.TGT.CCCTGTC.GG..G..GCCT...GT.TG...TCA.A..GG..CTT.C...AAC.G...C.C.C.GG.T..GT.C..GCT...C..GG..TG..G..C.CG.G..AG.CCT.

1630 1640 1650 1660 1670 1680 1690 1700 1710 1720 1730 1740 1750 1760 1770 1780 1790 1800

BSH75_banu GTGAAATGGATGACGGTCTCCACCTAACAAATTAACAACGTTGGTCTATCCCAATCGGAGAGACTGTAATATTAGACTTGCAGTCCGGTCCGTTTTTGGCTTTGAGCTGTGCGCGTGCAGGGTGCAAGCAGAAGAGAGTGCCGGTAGAACCTCTGGTTCTTTAGAAAGAGCATTCCGAAACGAGCG
 BSH74_nur
 BSH74_sol
 BSH74_shz
 NEP73_175
 SAF65_103 ..T...A.....
 SAF65_102
 BOT72_143
 BOT73_225
 CNG70_227
 CNG70_46
 TAN65_kem
 SOM77_1252
 SOM77_1605
 SOM77_ali
 SUD47_jub
 SUD47_rum
 ETH72_16
 ETH72_17
 UNK47_hig
 GER_hdlg ..T...A.....
 IND53_mad
 IND67_mahG.....G.....
 SUM70_222A.....
 SUM70_228A.....
 IND64_vel4G.....
 IND64_vel5G.....
 IRN72_tbrzG.....
 YUG72_164G.....
 AFG70_vlt4G.....
 KUW67_1629G.....
 PAK69_lahG.....
 SYR72_119G.....
 UNK46_harvA.....
 UNK46_hindA.....
 JAP46_yamC.....
 JAP51_hrprG.....
 JAP51_stw1G.....
 KOR47_leeA.....
 CHN48_hornA.....
 BEN68_59G...G...T.T...G...C...G...C...A.G.C..A.T.C...CAG.G..T.....G.....
 NIG69_001G...G...T.T...G...C...G...C...A.G.C..A.T.C...A.CAG.G..T.....G.....
 SLN68_258G...G...T.T...G...C...G...C...A.G.C..A.T.C...CAG.G..T.....G.....
 GUI69_005G...G...T.T...G...C...G...C...A.G.C..A.T.C...CAG.G..T.....G.....
 BRZ66_garG...T.T...G...T.C.A...G...C...TG.C..A.TTA.C...CA.....T.....
 BRZ66_39G...T.T...G...T.C.A...G...C...TG.C..A.TTA.C...CA.....A.....
 UNK52_butG...T.T...G...T.C...G...C...TG.C..A.TA.C...CA.....A.....
 CML96_m96 ACAGGGC..G...TCA.TA.AG.TCGG.GG.CGCCG..C..C.CG.ATG.CAA.TG.G..ACGGC.C.G..ACC...CGA..C...CCCCA.AACA.GTT..AA...TCA.GTAAC..GG..GAGGATAC.A.A...GGTGG.C.CAA.CTCCCG.GG.G.TG.CT..GGG.AGTA
 CML70_CMS ACAGGGC..G...TCA.TA.AG.TCGG.GG.CGCCG..C..C.CG.ATG.CAAA.TG.G..ACGGC.C.G..CC...CGA..C...CCCCA.AACA.GTT..AA...TCA.GTAAC..GG..GAGGATAC.A.A...GGTGG.CACAA.CTCCCG.GG.G.TG.CT..GGG.AGTA
 TATV68_dah ACAGGGC.AG.AG..AC.A..G...GGTGG.CGC.G.AC..CTCGCA.G.C.A.CTG.GACACGGC.C.G.A..CC...TC..T...CC.CCA..CA.GT..AAA...C...C.GG.TGAGGAT.CA.T.T..GG.GG.C.C...C.CCAG...A...G.CTAT..G.GT

1810 1820 1830 1840 1850 1860 1870 1880 1890 1900 1910 1920 1930 1940 1950 1960 1970 1980

BSH75_banu GTCCTCCGAGATAGAGATTGTAACGTCCTGAAGCGAAGTACCGATAAGAGTCGTTAACTTTCCACACCGCTTGGATTGAATTGAAGACTAAGGTGACGCTGCGGGTCTAAGGATAGTGGCCCGAAGCGCCATTACCGGCGCCTATCCCCGGCCGTACGGGGGTAGGGCGAAATGACGC

BSH74_nur

BSH74_sol

BSH74_shz

NEP73_175

SAF65_103 G

SAF65_102 A G

BOT72_143 A G

BOT73_225 A G

CNG70_227 A G

CNG70_46 A G

TAN65_kem A G

SOM77_1252 A G

SOM77_1605 A G

SOM77_al1 A.T G

SUD47_jub A G

SUD47_rum A G

ETH72_16 A G

ETH72_17 A G

UNK47_hig A G

GER_hdlg G

IND53_mad G

IND67_mah G

SUM70_222 G

SUM70_228 G

IND64_ve14 G

IND64_ve15 G

IRN72_tbrz G

YUG72_164 G

AFG70_vlt4 G

KUW67_1629 G

PAK69_lah G

SYR72_119 G

UNK46_harv G

UNK46_hind G

JAP46_yam G

JAP51_hrpr G

JAP51_stw1 G

KOR47_lee G

CHN48_horn G

BEN68_59 G

NIG69_001 G

SLN68_258 G

GUI69_005 G

BRZ66_gar G

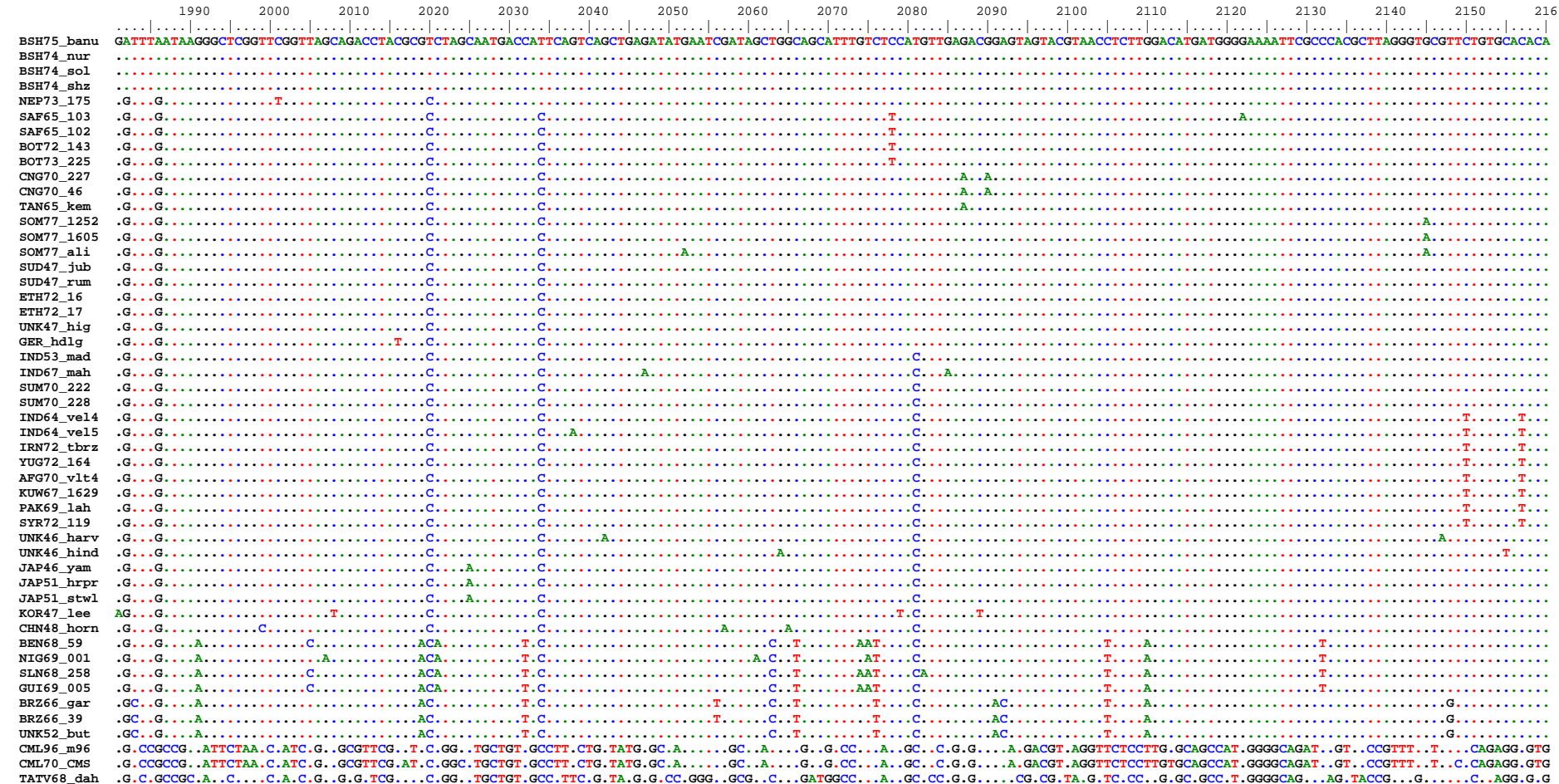
BRZ66_39 G

UNK52_but G

CML96_m96 .C.CCT.AG.GCG.G.G.CACGGT.CT.CAT.TT.GGTCGTA.G.GGAGTCA.CCGG.CC.G.A.TA.A.GCCA.GCCACGAG.CGGC.C.GT.TCCT.C.CG.GCG.C.TTT.CG.T.T.CC.T.TACTACG.T.TT.TA.A.AATTAA.TG.G.CGT.T

CML70_CMS .C.CCT.AG.GCG.G.G.CACGGT.CT.CAT.TT.GGTCGTA.G.GGAGTCA.CCGG.CC.G.A.TAC.A.GCCA.GCCACGAG.CGGC.C.GT.TCCT.C.CG.GCG.C.TTT.CG.T.T.CC.T.TACTACG.T.TT.TA.A.AATTAA.TG.G.CGT.T

TATV68_dah .C.CCTT.C.GCGTG.G.C.GGTAC.C.TG.GG.CG.G.GG.GTC.CCGGTCC.GT.A.GA.GCCA.GCC.G.G.C.G.G.C.T.T.CTGG.G.G.C.T.CG.T.T.CCG.A.A.AC.AT.T.A.A.AAAT.T.GTG.GT.T



2170 2180 2190 2200 2210 2220 2230 2240 2250 2260 2270 2280 2290 2300 2310 2320 2330 2340
 BSH75_banu A A A G T A C C A A C A A A T C C G A G T T C A T A G G G A G T G G A T A C C A C A T T C C C C A C T G C G T G C G G T T T C G G G G C G T C A G G A T A A G C C C C C C G T G G T A C T A A A G A T G C C G G G C T T A T G A C G A G T A A C G C G A C T A A A G T A G A A T G T C C C G C G G T T A T C C C G T C G G T C T C G A G A G C T T G C G G A A G
 BSH74_nur
 BSH74_sol
 BSH74_shz
 NEP73_175 C
 SAF65_103 C G A C
 SAF65_102 C G A C
 BOT72_143 C G T A C
 BOT73_225 C G T A C
 CNG70_227 C G T A T A C A
 CNG70_46 C T A T A C A
 TAN65_kem C A C A
 SOM77_1252 C A C
 SOM77_1605 C A C
 SOM77_ali C A C
 SUD47_jub C C C
 SUD47_rum C C C
 ETH72_16 C T T C
 ETH72_17 C T T C
 UNK47_hig C C C
 GER_hdlg C C C
 IND53_mad T C A A C
 IND67_mah C C A C
 SUM70_222 T C A A C
 SUM70_228 C A C
 IND64_ve14 C A C
 IND64_ve15 C A C
 IRN72_tbrz C A C
 YUG72_164 C A C
 AFG70_v1t4 C A C
 KUW67_1629 C A C
 PAK69_lah C A C
 SYR72_119 C A C
 UNK46_harv C G T C
 UNK46_hind C C C A
 JAP46_yam C C C
 JAP51_hrpr C T C
 JAP51_stw1 C TC C
 KOR47_lee C A T C T
 CHN48_horn C A AA G T C A
 BEN68_59 T T C A G A T GT GGA C A A T
 NIG69_001 T T C G A T GT GGA C A A
 SLN68_258 T T C A G A T GT GGA C A A T
 GUI69_005 T T C A G A T GT GGA C A A T
 BRZ66_gar T T C A A T G G C A A T A
 BRZ66_39 T T C A A T G GT GG C A T A
 UNK52_but T T C A A T G GT GG C A T A
 CML96_m96 TCACT TC T GCC CG CG AC ACCG TG CCGA GTC A C TA CCC T TA ACTGAAGC GAT TA TT C CGA TG CA TA ACG G CT T AG CG T G GGG CT TAG TTCAGCTGT CT CTC AG GTTCG CTA
 CML70_CMS TCACT TC T GCC CG CG AC ACCG TG CCGA GTC A C TA CCC T TA ACTGAAGC GAT TA TT C CGA TG CA TA ACG G CT T AG CG T G GGG CT TA TTCAGCTGT CT CTC AG GTTCG CTA
 TATV68_dah CA G C GGCT CGA A ACT CGA GAC G A A G C CT CCC T GA G G GC G AT TC GA TGTG A T A A CG CAATTC T G GT G GGG A T T CAG T C C G G TC T CGA

2350 2360 2370 2380 2390 2400 2410 2420 2430

BSH75_banu CTTACGGGACTCGGCAGAGTCGGTCGTCTCTCCTCGTATGTACCAGGCTCAAATGTGTAGATCAAGGGAAATCGTCGGGAGTATACAACCTAGTCG
BSH74_nur
BSH74_sol
BSH74_shz
NEP73_175A.....C
SAF65_103A.....
SAF65_102A.....
BOT72_143A.....
BOT73_225A.....
CNG70_227A.....T.....C
CNG70_46A.....C
TAN65_kemA.....C
SOM77_1252A.....A.....AA
SOM77_1605A.....A.....AA
SOM77_aliA.....A.....AA
SUD47_jubA.....
SUD47_rumA.....
ETH72_16G.....A.....
ETH72_17G.....A.....
UNK47_higA.....
GER_hdlgA.....
IND53_madA.....A
IND67_mahC...G...A.....A.C
SUM70_222A.....A
SUM70_228A.....A
IND64_ve14T.....A.....A
IND64_ve15T.....A.....A
IRN72_tbrzT.....A.....A
YUG72_164T.....A.....A
AFG70_v1t4T.....A.....A
KUW67_1629T.....A.....A
PAK69_lahT.....A.....A
SYR72_119T.....A.....A
UNK46_harvA.....A.....A
UNK46_hindA.....A.....A
JAP46_yamA.....A.....
JAP51_hrprA.....A.....
JAP51_stw1T...T...A.....A
KOR47_leeA.....A.....
CHN48_hornA.....A.....
BEN68_59A.....CA...G.....A.C...T...A.G.T.A.....C...A.A
NIG69_001A.....C...G.....A.C...T...A.G.T.A.....C...A.A
SLN68_258A.....CA...G.....A.C...T...A.G.T.A.....C...A.A
GUI69_005A.....CA...G.....A.C...T...A.G.T.A.....C...A.A
BRZ66_garA.....C...G.....A.C...T...A.G...A.....C...A.A
BRZ66_39A.....C...G.....A.C...T...A.G...A.....C...A.A
UNK52_butA.....C...G.....A.C...T...A.G...A.....C...A.A
CML96_m96 GCCGA..AAG...T.T..CTCT.A..TCTTCC.TCT.CGC.GCT.G..TC.GG.AA..A.AGC.TGAA.GT.CAT.A.AAT...CG.G.TCCA.A
CML70_CMS GCCGA..AAG...T.T..CTCT.A..TCTTCC.TCT.CGC.GCT.G..TC.GG.AA..A.AGC.TGAA.GT.CAT.A.AAT...CG.G.TCCA.A
TATV68_dah GCCG...G..A..T.T..A.AC..CT.CCT.C..CGC.GC..G..T.TGG.A...G..TG.A.GG.CA..AA..TA..CGTGG..C...