



PvuI (7)
SgfI (6) 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA **MfeI (82)**
101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCCCTACCTGAGGCC **Bsu36I (291)**
301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

NcoI (560)
BstEII (555) 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTCCACATGGAGGATTCGGAACCGGAGCGGAAGCGGGCACGCGC **AgeI (552)**
1 M E D S E P E R K R A R A
KasI (535) 601 GGACGAGGCGACCGGGTGGGAGCCGCTCCGAGGACGAGGATGAGGACGACGAGGACTACGTACCCTATGTGCCGTTGCGGCAGCGCCGCCAGCTACTG **SnaBI (658)** **NgoMIV (686)**
13 D E A T A G G S R S E D E D E D E D Y V P Y V P L R Q R R Q L L

SacII (611) 701 CTCCAGAAGCTGCTGCAGCGAAGACGCAAGGGCGCTACGGAGGAAGAGCAGCAGGACAGTGGCAGTGAGCCCCGAGGAGATGAGGACGACATCCCCTGG **Bsp120I**
47 L Q K L L Q R R R K G A T E E E Q Q D S G S E P R G D E D D I P L
801 GCCCTCAGTCCAATGTCAGCCTCCTGGATCAGCACCAGCACCTCAAAGAGAAGGCTGAAGCACGCAAGGAGTCCGCCAAGGAAAAGCAACTGAAGGAAGA **Bsp120I**
80 G P Q S N V S L L D Q H Q H L K E K A E A R K E S A K E K Q L K E E

XmnI (901) 901 AGAAAAGATTCTGGAGAGTGTGGCTGAAGGCCGAGCCTTGATGTCAGTGAAGGAAATGGCCAAAGGCATCACCTATGACGATCCAATCAAACCTAGTTGG **SpeI (991)**
113 E K I L E S V A E G R A L M S V K E M A K G I T Y D D P I K T S W
1001 ACACCCCCGCTTATGTCCTGAGCATGTCTGAGGAGCGGCATGAGCGAGTTCCGAAGAAGTATCACATCCTGGTGAGGGCGATGGTATCCCGCCACCCA
147 T P P R Y V L S M S E E R H E R V R K K Y H I L V E G D G I P P P
1101 TCAAGAGCTTCAAGGAGATGAAGTTCTGCAGTATCCTTCGGGGCCTGAAAAAAGGGCATCCTCCACCAACACCCATTGAGTCCAGGGCATCCC
180 I K S F K E M K P A A I L R G L K K K G I L H P T P I Q I Q G I P
1201 TACCATTCTGTCGGTTCGGGACATGATCGGCATTGCCTTACGGGGTCAAGGCAAGACTGGTATTCACTCTGCCAGTCACTATGTTCTGCTGGAACAG
213 T I L S G R D M I G I A F T G S G K T L V F T L P V I M F C L E Q

NruI (1357) 1301 GAGAAGCGGTTGCCTTTCTCCAAGCGAGAGGGCCTTATGGACTCATCATCTGCCCTCGCGAGAGCTGGCTCGGAGACCCACGGCATCCTGGAGTATT
247 E K R L P F S K R E G P Y G L I I C P S R E L A R Q T H G I L E Y
1401 ACTGCCGCTGCTGCAGGAGGACAGCTACCCCTCCTGCCTGTGCCCTGTCATCGGGGCGATGTCGGTGAAGGAGCAGATGGAGACCATCCGACATGG
280 Y C R L L Q E D S S P L L R C A L C I G G M S V K E Q M E T I R H G
1501 TGTGCACATGATGGTAGCCACACCTGGAGCCTCATGGATTTGCTGCAGAAGAAAATGGTCAGCCTAGACATCTGCCGCTACCTAGCCCTGGATGAAGCT
313 V H M M V A T P G R L M D L L Q K K M V S L D I C R Y L A L D E A
1601 GACCGCATGATTGACATGGGCTTTGAGGGTACATTCGTACCATCTTCTACTTCAAAGGGCCAACGGCAGACTCTGCTCTTCAAGTCCACCATGCCGA
347 D R M I D M G F E G D I R T I F S Y F K G Q R Q T L L F S A T M P

XcmI (1718) 1701 AGAAGATTCAAAACCTTGCCAAAGAGTGCCTTGGTAAAGCCTGTACCATCAATGTGGTCTGCTGGAGCAGCCAGCCTTGTGTCATCCAGGAGGTGGA
380 K K I Q N F A K S A L V K P V T I N V G R A G A A S L D V I Q E V E
1801 GTATGTGAAGGAGGAAGCAAGTGGTGTACTTCTGAGTGCCTGCAGAAGACACCCACCTGTGCTCATCTTTCAGAGAAGAAAGCAGATGTGGAT
413 Y V K E E A K M V Y L L E C L Q K T P P P V L I F A E K K A D V D
1901 GCCATTACGAATACCTCCTGCTCAAGGGTGTGAGGCTGTAGCCATTATGGGGCAAGACAGGAAGAGCGGACCAAGGCCATTGAGGCATTCCGGG
447 A I H E Y L L L K G V E A V A I H G G K D Q E E R T K A I E A F R
2001 AAGGAAGAAGGAGCTTGTAGTGGCCACAGATGTGGCCTCTAAAGCCTGGACTTCTGCCATCCAGCATGTCAACTATGACATGCCTGAAGAGAT
480 E G K K D V L V A T D V A S K G L D F P A I Q H V I N Y D M P E E I
2101 AGAAAACATGTGCACAGAATTGGCCGCACTGGGCGTTAGGAAACACAGGCATCGCTACCACCTTCAACAAGGCCTGCGATGAGTCAAGTGCCTCATG
513 E N Y V H R I G R T G R S G N T G I A T T F I N K A C D E S V L M

Acc65I (2235) 2201 GACCTCAAAGCCTTGTGCTGGAGGCCAAGCAGAAGTACCACCTGTTCTGCAAGTGTGCTGCATGTGGGACGAGTCCATGCTGGACATTGGAGGAGAAC
547 D L K A L L L E A K Q K V P P V L Q V L H C G D E S M L D I G G E
2301 GGGGCTGTGCTTCTGTGGAGGCTTGGCCATCGGATCACTGACTGCCCAAACCTGAAGCTATGCAGACCAAGCAGGTCAAGCAATTGGCCGCAAGGA
580 R G C A F C G G L G H R I T D C P K L E A M Q T K Q V S N I G R K D

Neol (2417) 2401 CTACCTGGCCACAGCTCCATGGACTTCTGAGCCGCTGACTTCTCTTCTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCA
613 Y L A H S S M D F • **NheI (2451)**

HpaI (2589) 2501 CAACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACA

MfeI (2600) 2601 CAATTGCATTCATTTATGTTTCAGGTTTCAGGGGAGGTGTTGGAGGTTTTTAAAGCAAGTAAACCTCTACAATGTGGTATGGAATTCTAAAATACA
EcoRI (2685)
2701 GCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTA
2801 GCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTCCAAAGTTTGAAGTACTCTTCAATTTCTTATGTTTAAATGCACTGA

2901 **SspI (2924)** **SwaI (2938)**
 C T C C C A C A T T C C C T T T T T A G T A A A A T A T T C A G A A A T A A T T T A A A T A C A T C A T T G C A A T G A A A A T A A A T G T T T T T T A T T A G G C A G A A T C C A G A T G C T C A A

3001 G G C C T T C A T A A T A T C C C C C A G T T T A G T A G T T G G A C T T A G G A A C A A A G G A A C C T T T A A T A G A A A T T G G A C A G C A A G A A A G C G A G C T T C T A G C T T T A G T T
 141 • N

3101 C T G G T G T A C T T G A G G G G A T G A G T T C C T C A A T G G T G G T T T T G A C C A G C T T G C C A T T C A T C T C A A T G A G C A C A A A G C A G T C A G G A G C A T A G T C A G A G A T G
 SacI (3199)

139 R T Y K L P I L E E I T T K V L K G N M E I L V F C D P A Y D S I
 3201 A G C T C T G C A C A T G C C A C A G G G C T G A C C A C C T G A T G G A T C T G T C C A C C T C A T C A G A G T A G G G G T G C C T G A C A G C C A C A A T G G T G T C A A A G T C C T T C T
 105 L E R C M G C P S V V R I S R D V E D S Y P H R V A V I T D F D K Q
 3301 G C C G T T G C T C A C A G C A G A C C C A A T G G C A A T G G C T T C A G C A C A G A C A G T G A C C C T G C C A A T G T A G G C C T C A A T G T G G A C A G C A G A G A T G A T C T C C C C A G T
 72 G N S V A S G I A I A E A C V T V R G I Y A E I H V A S I I E G T
 3401 C T T G T C C T G A T G G C C C C G A C A T G G T G C T T G T T G T C C T A T A G A G C A T G G T G A T C T T C T C A G T G G C G A C C C A C C A G C T C C A G A T C C T G C T G A G A G
 39 K T R I A A G V H H K N D E Y L M T I K E T A V E V L E L D Q Q S

3501 **XmnI (3505)** **AseI (3571)**
 A T G T T G A A G G T C T T C A T G G T G G C C C T C C T A T A G T G A G T C G T A T T A T A C T A T G C C G A T A T A C T A T G C C G A T G A T T A A T T G T C A A A A C A G C G T G G A T G G C G T
 5 I N F T K M

3601 **SacI (3628)**
 C T C C A G C T T A T C T G A C G G T T C A C T A A A C G A G C T C T G C T T A T A T A G A C C T C C C A C C G T A C A C G C C T A C C G C C C A T T T G C G T C A A T G G G G C G G A G T T G T T A C

3701 **SpeI (3726)**
 G A C A T T T T G G A A A G T C C C G T T G A T T A C T A G T C A A A A C A A A C T C C C A T T G A C G T C A A T G G G G T G G A G A C T T G G A A A T C C C C G T G A G T C A A A C C G C T A T C C

3801 **SnaBI (3854)**
 A C G C C C A T T G A T G T A C T G C C A A A A C C G C A T C A T C A T G G T A A T A G C G A T G A C T A A T A C G T A G A T G T A C T G C C A A G T A G G A A A G T C C C A T A A G G T C A T G T A C

3901 **NdeI (3959)**
 T G G C A T A A T G C C A G G C G G G C A T T T A C C G T C A T T G A C G T C A A T A G G G G G C T A C T T G G C A T A T G A T A C A C T T G A T G T A C T G C C A A G T G G G C A G T T T A C C

4001 G T A A A T A C T C C A C C A T T G A C G T C A A T G G A A A G T C C C T A T T G G C G T T A C T A T G G G A A C A T A C G T C A T T A T T G A C G T C A A T G G G C G G G G T C G T T G G G C G G

4101 **PacI (4145)** **SdaI (4137)** **BspLU11I (4155)**
 T C A G C C A G G C G G G C A T T T A C C G T A A G T T A T G T A A C G C C T G C A G G T T A A T A A G A A C A T G T G A G C A A A A G C C A G C A A A A G G C C A G G A A C C G T A A A A A G G

4201 C C G C T T G C T G G C G T T T T C C A T A G G C T C C G C C C C C T G A C G A G C A T C A C A A A A T C G A C G C T C A A G T C A G A G T G G C G A A A C C C G A C A G A C T A T A A A G

4301 A T A C C A G G C G T T T C C C C T G G A A G C T C C C T C G T G C G C T C T C T G T T C C G A C C C T G C C G T T A C C G G A T A C T G T C C G C T T T C C C T T C G G G A A G C G T G

4401 G C G C T T T C T C A T A G C T C A C G C T G T A G G T A T C T C A G T T C G G T G T A G G T C G T T C G C T C C A A G C T G G G C T G T G T G C A C G A A C C C C C G T T C A G C C C G A C C G C T

4501 G C G C T T A T C C G G T A A C T A T C G T C T T G A G T C C A A C C C G G T A A G A C A C G A C T T A T C G C C A C T G G C A G C A G C C A C T G G T A A C A G G A T T A G C A G A G C G A G G T A

4601 T G T A G G C G G T G C T A C A G A G T T C T T G A A G T G G T G C C T A A C T A C G G C T A C A C T A G A A G A A C A G T A T T T G T A T C T G C G C T C T G C T G A A G C C A G T T A C C T T C

4701 G G A A A A A G A G T T G T A G C T C T T G A T C C G G C A A A C A A A C C A C C G C T G G T A G C G G T G G T T T T T T T T T G T T G C A A G C A G C A G A T T A C G C G A G A A A A A A G G A T

4801 **PacI (4885)** **SwaI (4894)**
 C T C A A G A A G A T C C T T T G A T C T T T T C T A C G G G T C T G A C G C T C A G T G G A A C G A A A A C T C A C G T T A A G G G A T T T T G G T C A T G G C T A G T T A A T T A A C A T T T A A

EagI (4905)
NotI (4904)
 4901 A T C A G C G G C C G C A A T A A A A T A T C T T T A T T T T C A T T A C A T C T G T G T T G G T T T T T T G T G T G A A T C G T A A C T A A C A T A C G C T C C C A T C A A A A C A A A A C G A
 5001 A A C A A A A C A A A C T A G C A A A A T A G G C T G T C C C C A G T G C A A G T G C A G G T G C C A G A A C A T T T C T C T A T C G A A