



PvuI (7)
SgfI (6) 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA **MfeI (82)**

101 GAGAAAGTGGCGGGGTAACCTGGAAAGTGTGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACGCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCCTCCCGCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

KasI (535) **SphI (560)** **Bsp120I (570)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCCCTA **AgeI (552)** **XmaI (566)** CCTGAGATCACCGGTCAGCATGCCCGGGGCCAGTGGCTGCCTTACTCCTGCTGAT
1 M P R G P V A A L L L I

NcoI (603)
601 TCTCCATGGAGCTGGAGCTGCCTGGACCTCACTTGTACTGACTACCTCTGGACCATCACCTGTGCTCTGGAGACACGGAGCCCCAACCCAGCATA
13 L H G A W S C L D L T C Y T D Y L W T I T C V L E T R S P N P S I

BbrPI (798)
701 CTCAGTCTCACCTGGCAAGATGAATATGAGGAACCTCAGGACCAAGAGACCTTCTGCAGCCTACACAAGTCTGGCCACAACACCACACATATATGGTACA
47 L S L T W Q D E Y E E L Q D Q E T F C S L H K S G H N T T H I W Y
801 CGTGCCATATGCGCTTGTCTCAATTCCTGTCCGATGAAGTTTTATTGTCAACGTGACGGACAGTCTGGCAAACTCCAAGAGTGTGGCAGCTTTGT
80 T C H M R L S Q F L S D E V F I V N V T D Q S G N N S Q E C G S F V

EcoRV (964)
901 CCTGGCTGAGAGCATCAAGCCAGCTCCCCCTTGAACGTGACTGTGGCCTTCTCAGGACGCTATGATATCTCCTGGGACTCAGCTTATGACGAACCTCC
113 L A E S I K P A P P L N V T V A F S G R Y D I S W D S A Y D E P S

BstEII (1074)
1001 AACTACGTCTGAGAGGCAAGCTACAATATGAGCTGCAGTATCGAACTCAGAGACCCCTATGCTGTGAGGGCCGGTGACCAAGCTGATCTCAGTGGACT
147 N Y V L R G K L Q Y E L Q Y R N L R D P Y A V R P V T K L I S V D
1101 CAAGAAAGTCTCTCTTCTCCCTGAAGAGTTCCACAAAGATTCTAGCTACCAGCTGCAGATGCGGGCAGCGCCTCAGCCAGGCATTCATTACAGGGGAC
180 S R N V S L L P E E F H K D S S Y Q L Q M R A A P Q P G T S F R G T

Tth111I (1216) **SmaI (1262)**
1201 CTGGAGTGTGAGTGGAGTGACCCCGTCATCTTTCAGACCCAGGCTGGGGAGCCCGAGGACGGCTGGGACCTCACATGCTGCTGCTCCTGGCTGTCTTGATC
213 W S E W S D P V I F Q T Q A G E P E A G W D P H M L L L L A V L I
1301 ATGTCTGGTTTTTCATGGGTCTGAAGATCCACCTGCCTTGGAGGCTATGGAAAAAGATATGGCACCAAGTGGCCACCCCTGAGAGTTTTCTCCAGCCCC
247 I V L V F M G L K I H L P W R L W K K I W A P V P T P E S F F Q P

BsrGI (1400) **XcmI (1457)**
1401 TGTACAGGGAGCACAGCGGGAACCTCAAGAAATGGGTTAATACCCCTTTCACGGCCTCCAGCATAGAGTTGGTCCACAGAGTCCACAACAACATCAGC
280 L Y R E H S G N F K K W V N T P F T A S S I E L V P Q S S T T T S A

XmnI (1530) **XmaI (1539)**
1501 CTTACATCTGTCTTGTATCCAGCAAGGAGAAGTTCGCGGGCTGCGGGTCTGGAAGAGCAACTGGAGTGTGATGGAATGCTGAGCCTGGTCAC
313 L H L S L Y P A K E K K F P G L P G L E E Q L E C D G M S E P G H
1601 TGGTGATAATCCCTTGGCAGCTGGCAAGCGGTCTCAGCCTACAGTGGAGAGAGACCGCCATATGGTCTGGTGTCCATTGACACAGTACTGTGG
347 W C I I P L A A G Q A V S A Y S E E R D R P Y G L V S I D T V T V

BsaBI (1744)
1701 GAGATGCAGAGGGCTGTGTGTCTGGCCGTGTAGCTGTGAGGATGGCTATCCAGCCATGAACCTGGATGCTGGCAGAGAGTCTGGICCTAATTGAGA
380 G D A E G L C V W P C S C E D D G Y P A M N L D A G R E S G P N S E
1801 GGATCTGCTTTGGTACAGACCTGCTTTTCTGTCTTGGTGTGTCTCAGGTAGTGGTCTCAGGCTTGGGGCTCCCAAGCAGCCTACTGGACAGG
413 D L L L V T D P A F L S C G C V S G S G L R L G G S P G S L L D R

SmaI (1957)
1901 TTGAGGCTGTCAATTTGCAAAGGAAGGGACTGGACAGCAGACCAACCTGGAGAAGTGGGTCGCCAGGAGGGGCTCTGAGAGTGAAGCAGGTTCCCCC
447 L R L S F A K E G D W T A D P T W R T G S P G G G S E S E A G S P
2001 CTGGTCTGGACATGGACACATTTGACAGTGGCTTTCAGGTTCCAGACTGTGGCAGCCCGTGGAGACTGATGAAGACCCCTCGAAGCTATCTCCGCCA
480 P G L D M D T F D S G F A G S D C G S P V E T D E G P P R S Y L R Q

NheI (2147) **StuI (2179)** **AvrII (2194)**
2101 GTGGGTGGTCAAGACCCCTCACCTGTGGACAGTGGAGCCAGAGCAGCTAGCATATAATAACCAAGCTGTAGTGAAGAGGGCCTCTGACCTGCCTAGG
513 W V V R T P P P V D S G A Q S S •

2201 ACTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTA

HpaI (2338) **MfeI (2349)**
2301 TTGCTTTATTTGTAACCATTATAAGCTGCAATAAAACAAGTTAAACAACAACAATTGCATTCATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGTTTT

EcoRI (2434)
2401 TTAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAATAACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTGAACTCTTTTCT
2501 GAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTT

SspI (2673) **SwaI (2687)**
2601 CCAAGGTTTGAAGTACTGCTTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTGTAGTAAATATTCAGAATAATTTAAATACATC
2701 ATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAGGA

2801 ACCTTTAATAGAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTT
 141 • N R T Y K L P I L E E I T T K V L K
 SacI (2948)

2901 GCCATTCACTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACC
 122 G N M E I L V F C D P A Y D S I L E R C M G C P S V V R I S R D V

3001 TCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGA
 88 E D S Y P H R V A V I T D F D K Q G N S V A S G I A I A E A C V T V
 StuI (3112)

3101 CCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAAGTCTTGGTCTGATGGCCGCCCGACATGGTCTTGTGCTCATAGAGCAT
 55 R G I Y A E I H V A S I I E G T K T R I A A G V H H K N D E Y L M
 BspHI (3262)
 BbsI (3258)
 XmnI (3254)

3201 GGTGATCTTCTCAGTGGCGACTCCACCAGCTCCAGATCTGTGAGAGATGTTGAAGTCTTCTATGATGGCCCTCTATAGTGAGTCGTATTATACTAT
 22 T I K E T A V E V L E L D Q Q S I N F T K M
 AseI (3320)
 SacI (3377)

3301 GCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACCTCC
 SpeI (3475)

3401 CACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTACGACATTTTGAAAAGTCCCCTTGATTTACTAGTCAAAACAAACTCCCATTG
 3500 ACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGA
 SnaBI (3603)

3600 CTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGG
 3700 CGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCCTAAATACTCCACCATTGACGTCAATGAAAGTCCCTATTGGCGTACT
 SdaI (3886) PacI (3894)

3800 ATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCCTAAGTTATGTAACGCCCTG C A G G T T A
 BspLU11I (3904)

3898 A TTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATC
 3998 ACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCCTGGAAGTCCCTCGTGCGCTCTCCTGTTCC
 4098 GACCCTGCCGCTTACCGGATACCTGTCCGCTTCTCCCTTGGGAAGCGTGGCGTTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGTTC
 ApaLI (4218)

4198 GTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTACGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACAG
 4298 ACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTA
 4398 CACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCACCGCTGGT
 4498 AGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGGA
 EagI (4654)
 PacI (4634) SmaI (4643) NotI (4653)

4598 ACGAAAACCTCACGTTAAGGGATTTTGGTCAATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTT
 4698 GGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAAACAAAACGAAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGCAAGTGCAGGTG
 4798 CCAGAACATTTCTATCGAA