



PvuI (7)
SgfI (6) 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82)
101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGTGTCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCGTATATAAGTGCAGTAGTCGCC

Psp1406I (203) 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACGCGCCCGCCGCTACCTGAGGCC
HindIII (245)
301 GCCATCCACGCGGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAAGCTCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

501 TCTGTTTGTGCGCGGTTACAGATCCAAGCTGTGACCGGCGCCTACCTGAGATCACCGGTAGGAGGGCCACCATGGAGCCCTGGTACCTGGTGGTGGTCCCC
AgeI (552) **XcmI (568)** **NotI (568)** **BstEII (581)**
1 M E P L V T W V V P
BspEI (677)

601 CTCCTCTTCTCTTCTCTGCTGTCCAGGCAGGGGCTGCCTGCAGAACCAGTGTGCTGTTTTTCAGGACCCGCATATCCGGATGCAGACTCAGGCTCGG
11 L L F L F L L S R Q G A A C R T S E C C F Q D P P Y P D A D S G S

AvrII (708)
Bsp120I (704) 701 CCTCGGGCCCTAGGGACCTGAGATGCTATCGGATATCCAGTGATCGTTACGAGTGTCTCTGGCAGTATGAGGGTCCCACAGCTGGGGTCCAGCACTTCTC
EcoRV (731) **SmaI (770)**
44 A S G P R D L R C Y R I S S D R Y E C S W Q Y E G P T A G V S H F L

801 GCGGTGTTGCCTTAGCTCCGGGCGCTGCTGCTACTTCCGCCCGGCTCAGCCACCAGGCTGCAGTTTCTCCGACCAGGCTGGGGTGTCTGTGCTGTACT
77 R C C L S S G R C C Y F A A G S A T R L Q F S D Q A G V S V L Y T
BsrGI (892)

901 GTCACACTCTGGGTGGAATCCTGGGCCAGGAACAGACAGAGAAGTCTCTGAGGTACCTGCAGCTCTACAACCTAGTTAAATATGAGCCTCTCTG
111 V T L W V E S W A R N Q T E K S P E V T L Q L Y N S V K Y E P P L
1001 GAGACATCAAGGTGTCCAAGTTGGCCGGGAGCTGCGTATGGAGTGGGAGACCCCGGATAACCCAGGTTGGTGTGAGGTGCAGTTCCGGCACCCGGACACC
144 G D I K V S K L A G Q L R M E W E T P D N Q V G A E V Q F R H R T P
BstEII (953)

1101 CAGCAGTCCATGGAAGTTGGGCGACTGCGGACCTCAGGATGATGATACTGAGTCTGCCTCTGCCCCCTGGAGATGAATGGCCAGGAATCCAGCTC
177 S S P W K L G D C G P Q D D D T E S C L C P L E M N V A Q E F Q L
1201 CGACGACGGCGGCTGGGGAGCCAAGGAAGTTCTGGAGCAAGTGGAGCAGCCCTGTGTGCTTCCCCTGAAAACCCCCACAGCCTCAGGTGAGATTCT
211 R R R R L G S Q G S S W S K W S S P V C V P P E N P P Q P Q V R F
1301 CGGTGGAGCAGCTGGGCCAGGATGGGAGGAGCGGCTGACCTGAAAGAGCAGCAACCCAGCTGGAGCTTCCAGAAGGCTGTCAAGGCTGGCGCTGG
244 S V E Q L G Q D G R R R L T L K E Q P T Q L E L P E G C Q L E L P A P G
1401 CACGGAGTCACTTACCGACTACAGCTCCACATGCTGTCTGCTGCTGTAAGGCCAAGGCCACCAGGACCTGCACCTGGGGAAGATGCCCTATCTCTCG
277 T E V T Y R L Q L H M L S C P C K A K A T R T L H L G K M P Y L S
XcmI (1535)

1501 GGTGCTGCCTACAACGTGGCTGTATCTCTCGAACCAATTTGGTCTGGCCTGAACCAGACGTGGCACATTCCTGCCGACCCACACAGAACCAGTGG
311 G A A Y N V A V I S S N Q F G P G L N Q T W H I P A D T H T E P V
XmaI (1648)
SrfI (1647)

1601 CTCTGAATATCAGCGTCGGAACCAACGGGACCACCATGATTGGCCAGCCCGGCTCAGAGCACGACGTATTGCATTGAATGGCAGCCTGTGGGCCAGGA
344 A L N I S V G T N G T T M Y W P A R A Q S T T Y C I E W Q P V G Q D
BamHI (1742)

1701 CCGGGCCTTGCACCTGCAGCCTGACTGCGCCGCAAGACCCGGATCCGGCTGGAATGGCAACCTACAGCTGGAGTGCAGAGTCTGGGGCAATGGGGCAG
377 R G L A T C S L T A P Q D P A G M A T Y S W S R E S G A M G Q
FspI (1832)

1801 GAAAAGTGTACTACATTACCATCTTTGCTCTGCGCACCCCGAGAAGCTCACCTTGTGGTCTACGGTCTGTCCACCTACCCTTTGGGGGCAATGCCT
411 E K C Y Y I T I F A S A H P E K L T L W S T V L S T Y H F G G N A
1901 CAGCAGCTGGGACACCCGACCCAGCTCGGTGAAGAATCATAGCTTGGACTCTGTGTCTGTGGACTGGCACCATCCCTGCTGAGCACCTGTCCCGGCGT
444 S A A G T P H H V S V K N H S L D S V S V D W A P S L L S T C P G V
BstAPI (2054)

2001 CCTAAAGGAGTATGTTGTCCGCTGCCGAGATGAAGACAGCAAACAGGTGTGAGCATCCCGTGCAGCCACAGAGACCAAGTTACCCTCAGTGGCCTG
477 L K E Y V V R C R D E D S K Q V S E H P V Q P T E T Q V T L S G L
Eco4VII (2173)

2101 CGGGCTGGTGTAGCTACACGGTGCAGGTGCGAGCAGACACAGCGTGGCTGAGGGGTGTCTGGAGCCAGCCCCAGCGCTTCAGCATCGAAGTGCAGGTTT
511 R A G V A Y T V Q V R A D T A W L R G V W S Q P Q R F S I E V Q V
2201 CTGATTGGCTCATCTTCTCGCTCCCTGGGAGCTTCTGAGCATCCTTCTCGTGGCGTCTTGGTACCTTGGCCTGAACAGGGCCGACGGCACCT
544 S D W L I F F A S L G S F L S I L L V G V L G Y L G L N R A A R H L
2301 GTGCCCGCTGCCACACCCCTGTGCCAGCTCCGCAATTGAGTTCCCTGGAGGAAGGAGACTTGGCAGTGGATCAACCCAGTGGACTTCCAGGAAGAG
577 C P P L P T P C A S S A I E F P G G K E T W Q W I N P V D F Q E E
SdaI (2405) **XhoI (2463)**

2401 GCATCCCTGCAGGAGGCCCTGGTGGTAGAGATGTCTGGGACAAAGGCAGAGGACTGAGCCTCTCGAGAAGACAGAGCTACCTGAGGGTGGCCCTGAGC
611 A S L Q E A L V V E M S W D K G E R T E P L E K T E L P E G A P E
MscI (2573)
NheI (2567)

2501 TGGCCTGGATACAGAGTTGCTTGGAGGATGGAGACAGGTGCAAGGCCAAGATGTGATCGTTGAGGCTAGCTGGCCAGACATGATAAGATACATTGAT
644 L A L D T E L S L E D G D R C K A K M •

2601 GAGTTTGGACAAACCACAACCTAGAAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATA

2701 **HpaI (2705)** MfeI (2716)
 AACAAAGTTAAACAACAACAATTGCATTCATTTTTATGTTTCAGGTTCAAGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTAT

2801 EcoRI (2801)
 GGAATCTAAAATACAGCATAGCAAACCTTAACTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTG

2901 **SapI (2983)**
 TTGCCAATGTGCATTAGCTGTTTGACGCTCACCTTCTTCATGGAGTTAAGATATAGTGATTTTTCCCAAGGTTTGAAGTACTGCTCTTCATTTCTTTAT

3001 **SspI (3040)** SwaI (3054)
 GTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATTCAGAAAATAATTTAAATACATCATTGCAATGAAAAATAATGTTTTTTATTAGGCA

3101 GAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGA

3201 GCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGG
 141 • N 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

3301 **SacI (3315)** **BstXI (3344)**
 AGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATG
 111 A Y D S I 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

3401 **StuI (3479)**
 GTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAAGCAGACAGTACCTGCAATGTAGGCCCTCAATGTGGACAGCAG
 77 T D F D K Q 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

3501 AGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCGACATGGTGCTTGTCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTC
 44 I I E G T 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

3601 **XmnI (3621)** **AseI (3687)**
 CAGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAA
 11 L D Q Q S I N F T K M

3701 **SacI (3744)**
 ACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAAT

3801 **SpeI (3842)**
 GGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCATTTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTG

3901 **SnaBI (3970)**
 AGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTC

4001 **NdeI (4075)**
 CCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGCCATATGATACACTTGATGTACTGCC

4101 AAGTGGGCAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGC

4201 **SdaI (4253)** **PacI (4261)** **BspLU11I (4271)**
 GGGGGTCTGTTGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAGGCCAGCAAAGGCC

4301 AGGAACCGTAAAAAGGCCGCTTGTGGCTTTTTCCATAGGCTCCGCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACC

4401 CGACAGGACTATAAAGATACCAGGCTTTCCCTGGAAGCTCCCTCGTGGCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCT

4501 **ApaLI (4585)**
 CCCTTCGGGAAGCGTGGCGTTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTGCTCCAGCTGGGCTGTGTGCACGAACCCCC

4601 GTTCAGCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGA

4701 TTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCT

4801 GAAGCCAGTTACCTTCGAAAAAGATTGGTAGCTCTTGATCCGGCAAACAACCACCGCTGGTAGCGGTGGTTTTTTGTTTGAAGCAGCAGATTACG

4901 CGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTA

5001 **EagI (5021)** **PacI (5001)** **SwaI (5010)** **NotI (5020)**
 GTTAATTAACATTTAAATC AGCGGCCGCAATAAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTC

5101 CATCAAAAACAAACGAAACAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA