



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

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCGTATATAAGTGCAGTAGTCGCC

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

301 GCCATCCACGCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

NcoI (560)
BstEII (555)
AgeI (552) 501 TCTGTTTGTCCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTACCATTGGCTTCAACCCGTGCCAAGCCCACGCTACCTCTGCT
1 M A S T R A K P T L P L L

BstEII (609)
601 CCTGGCCCTGGTACCCTGTGTATCCCTGGGCTGGTGTGCTCAGGTATCCATCCATCCAGAGAAGCCTTCTGCCCCAGGGTGGGTCGTGCAGGTG
13 L A L V T V V I P G P G D A Q V S I H P R E A F L P Q G G S V Q V

XhoI (766)
701 AACTGTTCTTCTCATGCAAGGAGGACCTCAGCCTGGGCTTGAGACTCAGTGGCTGAAAGATGAGCTCGAGAGTGGACCCAAGCTGTTTGTGAGC
47 N C S S S C K E D L S L G L E T Q W L K D E L E S G P N W K L F E

PshAI (817) **BspEI (894)**
801 TGAGCGAGATCGGGGAGGACAGCAGTCCGCTGTGCTTTGAGAAGTGTGGCACCGTGCAGTCTGCGCTCCGCTACCATCACCGTGTATTCGTTTCCGGA
80 L S E I G E D S S P L C F E N C G T V Q S S A S A T I T V Y S F P E

BbrPI (964)
XcmI (963) **SacII (982)**
901 GAGTGTGGAGCTGAGACCTCTGCCAGCCTGGCAGCAAGTAGGCAAGGACCTCACCTGCGCTGCCACGTGGATGGTGGAGCACCGCGGCCAGCTCTCA
113 S V E L R P L P A W Q Q V G K D L T L R C H V D G G A P R T Q L S

XcmI (1035) **NheI (1090)**
1001 GCAGTGTCTCCGTGGGGAGGAGATACTGAGCCGCCAGCAGTGGTGGGCACCCCAAGGACCCCAAGGAGATCACATTACGGTGTGGCTAGCAGAG
147 A V L L R G E E I L S R Q P V G G H P K D P K E I T F T V L A S R

BspEI (1193)
1101 GGGACCAGGAGCCAATTTCTCATGCCGCACAGAAGTGGATCTCAGGCCGAAGGGCTGGCATTGTTCTTAATGTCTCCGAGGCCAGGACCTCCGGAC
180 G D H G A N F S C R T E L D L R P Q G L A L F S N V S E A R S L R T

1201 TTTGATCTTCCAGCTACCATCCCAAAGCTCGACACCCCTGACCTCCTGGAGGTGGGCACCCAGCAGAAGTTGTTTTGCTCCCTGGAAGGCTGTTTCT
213 F D L P A T I P K L D T P D L L E V G T Q Q K L F C S L E G L F P

1301 GCCTCTGAAGCTCGGATATACCTGGAGCTGGGAGGCCAGATGCCGACCCAGGAGAGCACAACAGCAGTGAAGTCTGTGTCAGCCACTGCCTTGGTAGAGG
247 A S E A R I Y L E L G G Q M P T Q E S T N S S D S V S A T A L V E

NheI (1446)
1401 TGAAGTGGAGTTCGACAGAACCCTGCCGCTGCGCTGCGTTTTGGAGTAGCGGACCAGATCTGGAGACGCAGAGGACCTTAACAGTCTACAACCTTTT
280 V T E E F D R T L P L R C V L E L A D Q I L E T Q R T L T V Y N F S

PvuII (1522) **BsrBI (1596)**
1501 AGCTCCGGTCTGACCCTGAGCAGCTGGAGTCTCGAAGGGAGCCAAGTAAGTGTGAAGTGTGAAGCCACAGTGGGTGCAAGGTGGTTCTTCTGAGC
313 A P V L T L S Q L E V S E G S Q V T V K C E A H S G S K V V L L S

AvrII (1609) **HindIII (1671)** **BsrBI (1688)**
1601 GGCCTGAGCCTAGGCCACCCACCCGAGGTCCAATTCACTGAATGCCAGCTCGGAGGATCACAACGAAGCTTCTTTGCTCTGCCGCTCTGGAGG
347 G V E P R P P T P Q V Q F T L N A S S E D H K R S F F C S A A L E

BbrPI (1741)
1701 TGGCGGAAAGTCTCTGTTTAAAAACCAGACCTGGAAGTGCAGTGTGTATGGTCTCGGCTGGACGAGACGGACTGCTTGGGAACTGGACCTGGCA
380 V A G K F L F K N Q T L E L H V L Y G P R L D E T D C L G N W T W Q

PstI (1860) **BstAPI (1873)**
1801 AGAGGGTCTCAGCAGACTCTGAAATGCCAGGCTGGGGAAACCCATCTCCTAAGATGACCTGCAGACGGAAGGCAGATGGTGCCTCTGCCATCGGG
413 E G S Q Q T L K C Q A W G N P S P K M T C R R K A D G A L L P I G

NcoI (1959) **ScaI (1992)**
1901 GTGGTGAAGTCTGTCAAACAGGAGATGAATGGTACATACGTGTGCCATGCCTTTAGCTCCCATGGGAATGTCACCAGGAATGTGTACCTGACAGTACTGT
447 V V K S V K Q E M N G T Y V C H A F S S H G N V T R N V Y L T V L

ScaI (2040)
2001 ACCACTCTAAAATAACTGGACTATAATCATTCTGGTGCAGTACTGTGGTCTTGTGGCCCTCGTGTGGCAGCCTCTTATGTTTATAACCCGACAG
480 Y H S Q N N W T I I I L V P V L L V I V G L V M A A S Y V Y N R Q R

2101 AAAGATCAGGATATAAAGTTACAGAAGGCTCAGGAGGAGGCCATAAACTCAAGGGACAAGCCCCACCTCCCTGAGCCTGCTGGATGAGACTCCTGCCT
513 K I R I Y K L Q K A Q E E A I K L K G Q A P P P •

NheI (2207)
EcoRI (2201)
2201 GGAATTCGCTAGCTCGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTAAAAAATGCTTTATTTGTGAAATTTGTGATG

HpaI (2370) **MfeI (2381)**
2301 CTATTGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACACAACAATTGCATTCTTTTATG

2401 TTT**CAGGTT**CAGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGG**AATTCT**AAAAATACAGCATAGCAAACTTTAACCC
EcoRI (2466)

2501 TCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTGCAGCCTCACCT

2601 TCTTTCATGGAGTTTAAGATATAGTGTATTTTCCCAAGTTTGAAGT**AGCTCTTCATTCTTTATGTTTTAAATGCACTGACCTCCCACATTCCCTTTTT**
SapI (2648)

2701 AGTAAATATT**CAGAAATAATTTAAATACATCATTGCAATGAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCC**
SspI (2705) SwaI (2719)

2801 CAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGG
1414 • N R T Y K L P

2901 ATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCAC
132 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 L E R C M G C

3001 AGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGA
99 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 G N S V A S

3101 CCCAATGGCAATGGCTTCAGCACAGACAGTGACCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGCTGATGGCCGCC
66 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 K T R I A A

BbsI (3290)
XmnI (3286)

3201 CCGACATGGTCTTGTGTCTCATAGAGCATGGTGTCTTCTAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTT**CATGG**
32 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 I N F T K M

AseI (3352)

3301 TGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAA**AAAC**AGCGTGGATGGCGTCTCCAGCTTATCTGACGGT

3401 TCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCG

3501 TTGATTT**ACTAGT**CAAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGC
SpeI (3507)

3601 CAAAACCGCATCATCATGGTAATAGCGTAGCTAATACGTAGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGG
SnaBI (3635)

3701 GCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACCCATTG
NdeI (3740)

3801 ACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCTGTTGGGCGGTGAGCCAGGCGGGCCATTT

3901 ACCGTAAGTTATGTAACG**CCTGCAGGTTAA**TTAAGAA**ACATGT**GAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTT
PacI (3926)
PstI (3919)
SdaI (3918) BspLU11I (3936)

4001 CCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCT

4101 GGAAGCTCCCTCGTGGCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCAC

4201 GCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGCTTACGCCGACCGCTGCGCCTTATCCGGTAACTA
ApaLI (4250)

4301 TCGTCTT**GAGTCC**AACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAG

4401 TTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCT

4501 CTTGATCCGGCAAACAACACCCTGTTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGAT

4601 CTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAA**AACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC**AGCGCCGCAATAAAA
PacI (4666) SwaI (4675) EagI (4686) NotI (4685)

4701 TATCTTTATTTTCAATACATCTGTGTGTTGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAACGAAACAAACAAACTAGCAAA

4801 ATAGGCTGTCCCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA